The Leonard and Gretchan Broom Center for Demography
Annual Report 2019
The Leonard and Gretchan Broom Center for Demography is an interdisciplinary research center at the University of California, Santa Barbara. Its mission is to facilitate research and training in social demography and population studies with particular emphasis on social and economic inequalities and health disparities. Key issues explored by Center Associates include inequalities across social groups defined by gender, sexuality, race/ethnicity and immigration status; population-environment interactions; the determinants of population health; migration flows; spatial demography; and the allocation of resources within and among families, workplaces, schools, and other social institutions. The Center’s physical space is located on the ground floor of North Hall and consists of faculty, administrative, and visitor offices, a graduate student lounge, and a computer lab. This report describes the Center’s activities during its seventh year of operation, from July 1, 2018 through June 30, 2019.

The Broom Center for Demography was established in October 2011 with generous funding from Leonard and Gretchan Broom and under the leadership of Founding Dean Melvin Oliver and Inaugural Director Peter Kuhn. Leonard Broom was a distinguished professor of sociology whose seven-decade long academic career included appointments at UC Los Angeles, University of Texas at Austin, the Australian National University, and most recently UC Santa Barbara. Leonard Broom served as editor of sociology’s flagship journal, American Sociological Review (1955-57), and he coauthored (with Philip Selznick, UC Berkeley) one of the first and most successful textbooks in sociology, originally published in 1955. Leonard Broom’s early research on the effects of US internment of Japanese-Americans during WWII made him an early critic of that policy and shaped a lifelong interest in social inequality that lives on in the Broom Center’s thematic foci.

The Broom Demography Center is directed by Professor of Sociology Maria Charles. Shelly Lundberg, the Leonard Broom Professor of Demography, is the Center’s Associate Director, and Trea DePrima is the Center’s Program Administrator. Sociology graduate student Devin Cornell provided excellent leadership as Manager of the Social Demography Lab during the 2018-19 academic year. The Advisory Board consists of Maria Charles (Sociology), Michael Gurven (Anthropology), David Lopez-Carr (Geography), Shelly Lundberg (Economics), Heather Royer (Economics), and Edward Telles (Sociology), plus two ex officio members: the Director of the Institute of Social, Behavioral, and Economic Research (ISBER), Stuart Smith, and SAGE Sara Miller McCune Dean of Social Sciences, Charles R. Hale.

The Broom Center currently consists of 38 faculty and postdoctoral Research Associates and 51 Graduate Associates spanning eight disciplines (Anthropology; Ecology, Evolution & Marine Biology; Economics; Geography; Linguistics; Marine Science; Psychology; and Sociology). We have been fortunate to welcome four new UCSB faculty members as Broom Center Research Associates during 2018 and
2019: Elizabeth Ackert (Assistant Professor in Geography), Kelsey Jack (Associate Professor in the BREN School of Environmental Science and Management), Trevon Logan (North Hall Professor of Economics), and Cate Taylor (Sociology).

Broom Research and Graduate Associates spent an active research year in 2018/19, together producing nearly 100 peer-reviewed journal articles, 7 books, and dozens of book chapters and other items. Center Associates also held active research grants totaling more than $30 million from sources including the National Institutes of Health, National Institutes on Aging, National Institute of Environmental Health Sciences, National Science Foundation, National Aeronautics and Space Administration, US Department of Defense, and W.K. Kellogg Foundation. Appendices 1 and 2 list publications and grants, respectively. A searchable list of Broom Center publications is available on the Center’s website. Research highlights under each of six thematic areas are discussed further on.

Broom Research Associates continue to hold numerous honorary professional positions, and to collect new honors, some of which are listed in Appendix 3. Of particular note: Edward Telles, Distinguished Professor and Broom Area Director for Race, Ethnicity and Migration, was inducted into the 2018 class of the American Academy of Arts and Sciences, one of the oldest scholarly societies in the United States, and Brenda Major, Professor of Psychology, was honored by the International Society for Self and Identity for her distinguished contributions over 40 years to understanding the effects of stigma and discrimination on identity.

Broom Research and Graduate Associates were prominently featured in the press in 2018-19. Biodemography Area Director Michael Gurven and his team have continued to receive significant media coverage for their path-breaking research on the social structures and health outcomes of forager-farmers in Bolivia. Sarah Thébaud’s new experimental study on who is held accountable for a messy house received significant press attention as well, including from the New York Times. Other recent media and public policy contributions by Broom Graduate and Research Associates are listed in Appendix 4.

The Center continued to operate its lively and well-attended Seminar Series featuring cutting-edge research talks by speakers from UCSB and around the state, country, and world. This year’s lineup included Florencia Torche (Stanford, Sociology), Solomon Hsiang (UC Berkeley, Public Policy), Dylan Connor (Arizona State University, Geography), Jamie Goodwin-White (UCLA, Geography), Yu Xie (Princeton, Sociology), Barbara Wolfe (University of Wisconsin, Economics), Jacqueline Torres (UC San Francisco, Epidemiology & Biostatistics), Tom Evans (University of Arizona, Geography),

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1 The count of publications in Appendix 1 includes all items that were published in 2018 or 2019, or forthcoming at the time of this writing. To ensure comparability over time, the Center uses the same approach in all its reports. “Other items” include encyclopedia entries, proceedings and reprints.
Michael Emch (University of North Carolina, Geography), Nathan Nunn (Harvard, Economics), Erika Arenas (UC Santa Barbara, Sociology), Sharon DeWitte (University of South Carolina, Anthropology), Ken Smith (University of Utah, Family & Consumer Studies), Youngjoo Cha (Indiana University, Sociology), Andrew Goodman-Bacon (Vanderbilt University, Economics). Seminars are held in North Hall every other week. Appendix 5 provides more information on topics and speakers.

During the 2018-19 academic year, the Broom Center hosted seven visiting scholars from six different countries (see Appendix 6). Visitors included Deborah Cobb-Clark (University of Sydney), Sanna Charlotta Ericsson (Lund University), Katrin Sommerfeld (ZEW Mannheim), Barbara Wolfe (University of Wisconsin), Bob Haveman (University of Wisconsin), Xiaoying Liang (Northwest University Xi’an China), and Yasuko Takezawa (Kyoto University). Visitors enrich the life of the Center and have offered diverse opportunities for research cross-fertilization and interdisciplinary collaborations.

In April 2019, the Center awarded its seventh set of Graduate Student Research and Travel (GSRT) grants. GSRT awards support dissertation research and attendance at training programs in demographic methods for qualifying Broom Graduate Associates. In the most recent funding round, 5 students received a total of $9,950 in GSRT funds. The Center also funded travel expenses to support a graduate student presentation at the annual meeting of the Population Association (PAA) in Austin, Texas. Appendix 7 provides a complete list of GSRT grants awarded by the Center during the 2018-19 academic year.

The Center’s social demography computer lab in North Hall offers a graduate student lounge and meeting space, state of the art hardware, and software ranging from Atlas.ti (a qualitative data analysis package) to statistical packages like Stata, SAS and SPSS, to flexible programming languages like Matlab and R. In-person advice on software, statistics, and study design is offered by a graduate student lab assistant. The Broom computer lab was renovated and reconfigured in spring 2018. Enhancements include more collaborative workspace, a large wall-mounted video display for presentations, and improved wireless connectivity.

The new Human Biodemography Laboratory continues to thrive under the direction of Broom Area Director Michael Gurven. This is a fully functional BSL-2 wet lab that allows measurement of stress biomarkers, immune function, nutritional status, infection, and reproductive hormones to explore the individual and population-level determinants of human health from infancy to old age. Specializing in high-throughput biomarker quantification in blood, urine, and saliva, this facility serves UCSB researchers and others interested in biological aspects of human health and development in clinical, field, and experimental settings.

To support graduate student training in demography, the Broom Center operates a series of Research Methods Mini-Courses, taught by the computer lab assistant and other UCSB faculty and graduate students. These short modules are typically two-hour hands-on sessions. Methods courses during the past year have included workshops on the open-source programming languages R and Python,
as well as introductions to web scraping, network analysis, and computational text analysis. Broom Graduate Associates also presented in-progress research and received feedback through Graduate Lab Lunches. A list of 2018-19 Mini-Courses and Lab Lunches is provided in Appendix 8.

The Broom Center’s Interdisciplinary PhD Emphasis in Demography completed its third year in 2018-19. Doctoral students in Anthropology, Economics, Geography, Global Studies, and Sociology can now add a Demography emphasis to their PhD degrees. Training includes a common core course in demographic methods, a proseminar, and a choice of demographically oriented courses in four participating departments. In the required reading/discussion group, Emphasis students read work of UCSB demographers, meet with Broom faculty affiliates and Seminar speakers, and discuss their own preliminary research plans. About a half dozen students from four departments are already participating in the program. An overview of the PhD Emphasis and its requirements can be found in Appendix 9.

During 2018/19, some Broom Graduate Associates moved on to research- and policy-related positions in academia, government and the private sector, including at the San Francisco Department of Health (Dan Melzer), Arizona State University (Angela Garcia), and American Geophysical Union/AAAS (Katalyn Voss). The Center’s 2018-19 Social Demography Lab Manager, Devin Cornell completed his MA in summer 2018 and will start the next academic year as PhD candidate at Duke University; Graduate Associate Anne Wong will continue her studies as a PhD candidate at Oxford University.

In 2018, the Broom Center became a member of the Association of Population Centers, APC. The APC is an independent group of universities and research organizations that aims to foster cooperation and collaboration among research centers, especially as regards research and data sharing, translation of demographic research for policymakers, and population-related training opportunities for graduate and undergraduate students from all backgrounds.

Research and education at the Broom Center is organized into six overlapping interdisciplinary areas: Family, Biodemography and Evolution, Environment, Population, and Health Dynamics, Sex and Gender, Education and Health, and Immigration, Race and Ethnicity. Each is guided by an area director, who also sits on the Center’s Advisory Board. Reports on the Center’s research areas follow.

Research Highlights: Family

The Family Demography Theme Director is Shelly Lundberg, who is also the Broom Professor of Demography and the Associate Director of the Broom Center. In total, 12 Research Associates and 15 Graduate Associates from Sociology, Economics, Anthropology, Political Science, and Geography conduct research and publish within this theme.
In "Earning their keep? Fostering, children's education, and work in north-western Tanzania" (forthcoming in Demographic Research), Broom Research Associate David Lawson and coauthors S Hedges, R Sear, J Todd, and M Urassa re-examine the puzzle that, despite predicted lower investment in nonbiological offspring, numerous studies report no obvious well-being penalty for fostered children. They find, based on data on educational outcomes and farm labor among children in north-western Tanzania, where fostering is traditionally common, that children fostered by close kin do not seem to be disadvantaged relative to children living with both biological children. Fostered children are more likely to do farm work, suggesting that their work can help to offset the costs they impose, but on weekdays when work would conflict with schooling, these differences are small.

In "Sharing the load: How do coresident children influence the allocation of work and schooling in northwestern Tanzania" (forthcoming in Demography) Lawson and coauthors reassess the role of age ordering of children in a household in explaining differences in schooling. Many models of parental investment predict that earlier-born children will receive more education, but in societies where children work, this pattern may be reversed because older children are more efficient at household tasks, freeing younger children to attend school. They find that this pattern varies by child gender in northwestern Tanzania. Relatively young girls in a household do less work and are more likely to attend school, while relatively older boys receive more education than younger boys. Labor substitution within the household, therefore, primarily disadvantages girls; boys coresiding with more girls also do fewer household chores. They conclude that considering children as both producers and consumers is critical to understanding intrahousehold allocation.

Research Highlights: Biodemography and Evolution

The Broom Center's Biodemography area is directed by Michael Gurven. In its eighth year, this area has eleven research associates and six graduate student associates, spanning anthropology, geography, and economics departments. Many of the theme's publications stem from the Evolutionary Anthropology and Biodemography Research Group, where the Tsimane Health and Life History Project (THLHP) (directed by Gurven) forms a central role (http://tsimane.anth.ucsb.edu). THLHP has been continuously funded by NIH/NIA since 2004. Its most recent award was two five-year R01 grants (totaling $6.8 million) starting September 2017, to expand its scope to study cognitive aging and dementia.

Area publications demonstrate the value of an evolutionary approach on a variety of themes that span across the social and natural sciences. Thirty-five publications from 2018-2019 appear in diverse, prestigious journals, such as the Proceedings of the National Academy of Sciences (PNAS), Nature Human Behaviour, Demography, American Journal of Clinical Nutrition, Maternal & Child Nutrition, Proceedings of the Royal Society B.

In the world's premier nutrition journal, American Journal of Clinical Nutrition, Broom associates Gurven and Thomas Kraft compare in detail traditional Tsimane and Moseten diets with U.S. diets, and
show how recent changes may soon increase heart disease risk in these indigenous populations. Gurven and Broom associate Raziel Davison note in PNAS that almost all well-studied contemporary hunter-gatherer populations are growing rapidly, and show through simulations that periodic catastrophes were likely an important part of prehistoric population dynamics. Despite this history of demographic catastrophe, they identify several social and life history features that enable humans to recover quickly. In another PNAS paper, Gurven provides a strong argument for the role of ecology in explaining cross-cultural variability in behavior and psychology in the social sciences. He uses this as a springboard for pushing us away from the familiar western bias, arguing for more diverse sampling. Related to this need to broaden sampling beyond western, urban settings, Gurven was a co-organizer and contributor to an “expert” National Academy of Sciences Expert Meeting in Washington DC on the use of non-western populations to study social processes related to aging.

David Lawson and Postdoctoral Scholar Susie Schaffnit published two papers in Nature Human Behavior and in Sexual and Reproductive Health Matters reporting on the first results of their ongoing National Science Foundation funded enquiry into the causes and consequences of early or ‘child’ marriage (<18 years) in Tanzania. These papers test the hypothesis that early marriage is driven by the coercion of daughters into marriage to the financial gain of parents, a dominant but rarely tested narrative in the international development sector. They reject this hypothesis, arguing that female adolescents are active participants in the marriage process and that early marriage may be beneficial in some circumstance for both parents and daughters.

Broom faculty associate Amy Boddy’s work focuses on the evolutionary and ecological components of cancer biology at different levels of biological organization. She is part of the Arizona Cancer and Evolution (ACE) Center, and Dr. Boddy is a co-leader on this effort to study organismal evolution and cancer defenses ($7,500,000 total direct. Boddy is Co-Leader Project 1.2018-2023). One of the main goals of this project is to place cancer vulnerabilities into a phylogenetic context and provide key species to study the evolution of cancer defenses. Amy is the lead investigator and has now secured funding through the ACE Center to study organismal evolution and cancer prevalence in vertebrates, including partnerships with the London Zoological Society to collect veterinary records, including cancer data, from animals housed at their facility ($39,440 total direct. 2018-2019) and to analyze the genomic response to DNA damage in Crocodilians ($8,000 total direct. 2019-2020), a taxa that is relatively cancer-free.

In a recent publication in Current PathoBiology Reports, Boddy and colleagues apply organismal life history theory to tumor biology. This cross disciplinary piece explains how evolution and ecology can be useful in understanding progression, predicting outcomes, and developing new therapeutic approaches to cancer biologist and pathologists. Boddy has also focused on education/outreach in cancer biology. In collaboration with Laura Romo (Pl, Chicano Studies), she has received one-year support ($66,941; beginning Jan 1, 2019) to educate middle school aged children on cancer prevention methods (including information on lifestyle factors such as diet and exercise, and education on HPV vaccines and sexual activities).
Research Highlights: Environment, Population, and Health Dynamics

The Center’s Environment, Population, and Health Dynamics area is directed by David Lopez-Carr. Researching within this area are 23 Graduate Student Associates and 12 Research Associates, up from 19 and 7 respectively in 2017. This area focuses on the dynamics between human populations and their environment with implications both for population and environmental outcomes.

This year, several associates published on various aspects of reproductive health. For example, John Weeks and colleagues explored social networks and spatial variability in adolescent childbearing in rural Honduras in work published in Social Science and Medicine. Professor Cassels led a paper published in AIDS and Behavior on coital frequency and male concurrent partnerships during pregnancy and postpartum in Ghana.

Stanford colleagues collaborated with López-Carr on NSF and Gates funded research in the area of population and environmentally mediated infectious disease. Among the group’s ongoing work, they recently published an article in The American Journal of Tropical Medicine and Hygiene that examines the connection between water contact and increased risk for schistosomiasis led by Stanford PhD student Andrea Lund.

Population dynamics in relation to coastal and marine systems emerged as a theme this year among several Broom associates. Karly Miller and colleagues published on opportunities to improve fisheries management through innovative technology and advanced data systems in Fish and Fisheries. Several Broom associates involved in the Mellon-Sawyer Grant on Oceans (PIs Lopez-Carr, P. Alagona, T. Shewery) culminated their year-long collaboration with a definition of and statement on marine justice published in the Journal of Environmental Studies and Sciences.

Several colleagues leveraged remote sensing technology to better understand population distribution and connections to environmental change. For example, Cascade Tuholske published on variability in urban population distributions across Africa in Environmental Research Letters. Lopez-Carr, Weeks, and colleagues examined forest cover change within different types of reserves in Ghana. The work was published in Environmental Monitoring and Assessment. Lastly, the best-selling textbook by Research Associate John Weeks, Population: Introduction to Concepts and Issues, Thirteenth Edition, is in press with Cengage Publishers and should be ready for demography courses taught by Broom associates this academic year.
Research Highlights: Sex and Gender

Researchers contributing to Broom’s Sex and Gender thematic area study gender and sexuality at diverse analytical levels, ranging from analyses of gendered identities, attitudes, and interactions to the mapping of global trends in employment, family structures, and belief systems. They utilize diverse methodological approaches to explore these inequalities within workplaces, schools, families, and other social institutions. Sex and Gender Research is coordinated by Maria Charles, who is also Director of the Broom Center, Professor of Sociology, faculty affiliate of the Feminist Studies Department. Contributing to this research area are 13 faculty Research Associates and 16 Graduate Student Associates from 7 campus departments and programs. Together they produced a wide range of cutting-edge articles, chapters, and books related to gender and sexuality in 2018 and 2019. Some highlights are summarized below.

Gender segregation in the professions is the topic of two 2019 papers, with one focusing on historical trends in economics, and one a cross-country comparison of the computer science field. In “Women in Economics: Stalled Progress” (Journal of Economic Perspectives), Broom Associate Director Shelly Lundberg and Graduate Alumna Jenna Stearns focus on historical trends in women’s share of economics professionals. Rather than a gradual integration of the economics field, they find highly irregular trends over the past hundred years, with the profession integrating slightly during the 1910s, re-segregating during the 1940s, and then integrating gradually again during the second half of the twentieth century. Since the mid-2000s, women’s representation among economists has remained at about 35%. The authors attribute stalled progress over the past two decades to a wide range of career barriers, including differential treatment that may reduce women’s expectations for future success and impede their productivity and promotion rates (independent of productivity). A cross-national comparative analysis of the computing field reveals a similarly uneven progress. In “An Inegalitarian Paradox” (published in Cracking the Digital Ceiling, Cambridge University Press), Broom Associates Tiffany Chow and Maria Charles provide a descriptive mapping of the gender segregation of computing occupations in 50 countries. Results reveal surprising cross-national differences, with weakest representation of women in some of the most affluent and reputedly gender-progressive societies. The authors discuss possible explanations and promising policy interventions.

Another high-profile 2019 research paper, “Good Housekeeping, Great Expectations,” uses a novel experimental design to explore gender differences in accountability for household cleanliness. Broom Research Associate Sarah Thébaud (with coauthors Kornrich and Ruppanner) asked respondents to view and evaluate photographs of relatively clean and messy rooms, ostensibly occupied by either a man or a woman. They found that respondents were significantly more likely to judge room occupants negatively and to assign responsibility for cleaning when they were told that the room was occupied by a woman than when they were told it was occupied by a man. This result is consistent with the idea that women are held to higher standards of domestic cleanliness and are more likely to suffer negative social consequences when these standards are not met. Gender differences in accountability may also help
explain women’s greater investment in household labor. This research was published in Sociological Methods and Research and later featured in the New York Times and other media outlets.

Research Highlights: Education and Health

The Broom Center's Education and Health Area Director is Heather Royer. Royer is an Associate Professor of Economics, Research Fellow at the National Bureau of Economic Research, and IZA Institute of Labor Economics Research Fellow. This research area includes 20 research associates and 19 graduate student associates from Anthropology, Economics, Geography, Global Studies, Psychological and Brain Sciences, and Sociology. For the 2018-2019 period, Education and Health researchers produced 16 publications including those in the Journal of Labor Economics, Social Science and Medicine, American Economic Journal: Economic Policy, Journal of Finance, and the Journal of the European Economic Association. Examples of these studies are below.

Discrimination and its effect on health is a focal area of study by Brenda Major, a Research Associate from the Department of Psychological and Brain Studies. Dr. Major along with co-authors investigated how the negative health effects of perceived discrimination are mitigated when taking into account self-blame in “Perceived discrimination and poor health: Accounting for self-blame complicates a well-established relationship” appearing in Social Science and Medicine. Using data from two correlational studies of White and ethnic minority adults in the United States, they conclude that self-blame and perceived discrimination are positively associated, and as such, self-blame may explain some of the connection between perceived discrimination and health. In a chapter for The Wiley Encyclopedia of Health Psychology, Dr. Major and collaborators expand upon these ideas in a formalization of the health consequences of prejudice and discrimination through the discussion of three mechanisms: inequality in resource allocation, stress effects of discrimination, and behavioral responses to discrimination or prejudice.

The theme of incentives and health behavior is an active area of research for Heather Royer, Research Associate from the Department of Economics. In “The Structure of Health Incentives: Evidence from a Field Experiment,” forthcoming at Management Science, Dr. Royer and co-authors attempt to understand how variation over time in the size of incentive payments to exercise affect individuals’ willingness to exercise. Constant incentives (i.e., incentives that do not vary over time) exhibit the most promise in encouraging exercise. In “When Incentives Backfire: Spillover Effects in Food Choice” in the American Economic Journal: Economic Policy, Dr. Royer with collaborators delve into understanding the extent to incentives can have both positive and negative peer effects. For example, it is possible if too many individuals are incentivized to do an action, a person may perceive that the action is too challenging and thus, decide not to partake in the action. These ideas are investigated in a field experiment on food choice with children.
On the topic of education, Research Associate Cecilia Speroni, along with a team of researchers at Mathematica Policy Research, evaluated a national teacher performance bonus program. According to their study in the *Journal of Labor Economics*, a $100 per student yearly teacher bonus led to an increase of 0.04 of a standard deviation in test scores.

**Research Highlights: Immigration, Race and Ethnicity**

The area director for the Broom Center's Race, Ethnicity and Immigration area is Distinguished Professor of Sociology Edward Telles, who continues to develop the area and has started an immigration initiative across campus. This area of research is multidisciplinary and uses a variety of quantitative and qualitative methods to understand race, ethnicity and immigration in a changing California, United States and world. Sixteen research associates and nine graduate student associates, spread across seven departments, comprise the area. With the Dean of Social Sciences Charles Hale, Telles has sought to raise the profile of immigration research and teaching on campus and bring it to the center of campus intellectual life. In pursuit of this goal, Telles, through this area in the Broom Center, has created a new website that advertises and announces activities around campus related to migration/immigration including faculty profiles, faculty research and conferences and talks. Dean Hale has approved and funded new assistant professor positions in immigration for the Departments of Chicana/o Studies, Sociology, Feminist Studies, Anthropology, and Global Studies so this promises to be a rapidly growing area of research at the Broom Center in the near future.

Following the conference *Expanding Bridges and Overcoming Walls* in August 2017 that brought together policymakers and leading scholars from Mexico and the United States to initiate dialogue on state-of-the-art research and current events in immigration, trade, and U.S.-Mexico relations, Telles and his colleague Raul Hinojosa of UCLA, have edited a book based on the conference. The book *The Trump Paradox: Immigration, Trade and Racial Politics in U.S.-Mexico Relations* has been tentatively accepted by the University of California Press.

Associates in the race, ethnicity and immigration area had an active research year in 2018-19. Broom Associates Emiko Saldivar and Erika Arenas have received funding from the Kellogg Foundation to examine the validity and reliability of the question proposed by the Census Bureau in Mexico to measure the afro-descendant population in their 2015 Intercensal National Survey. The inclusion of the question in this survey is a major achievement that recognizes and makes visible black people in Mexico. They have recently published an article about methodological considerations in the minefield of counting Mexico’s afrodescendant population. Professor Arenas published another article in *Journal of Marriage and the Family*. This year, Telles co-authored a book *Durable Ethnicity: Mexican Americans and the Ethnic Core* with Oxford University Press, an article on indigenous identity in *Social Forces*, and another on racial intermarriage in the Americas (Brazil, Cuba and the United States) in *Sociological Science*. 
Appendices

1. Publications

2. Active Funding

3. Honors and Recognition

4. Media Attention and Public Policy Contributions

5. Seminar Schedule

6. Academic Visitors

7. Graduate Research and Training Grants (GRTG) Awarded

8. Methods Mini-Courses and Graduate Student Presentations

9. Interdisciplinary PhD Emphasis in Demography
Appendix 1
Publications, 2018 and 2019

Amy Anderson

Erika Arenas


Susan Cassels


Camlin C, Cassels S, Seeley J. 2018. Editorial: Bringing population mobility into focus to achieve HIV prevention goals. JIAS: Journal of the International AIDS Society 21(S4):e25136. (PMCID: PMC6053544) A


To facilitate comparability of research output over time, this appendix reports all publications by Center Associates in 2018 and 2019, plus all accepted, forthcoming items.
*Item is listed more than once in this report, since it has multiple Broom authors.
A - peer-reviewed article, B - book, C - chapter in edited volume, O - other
**Maria Charles**


**Gary Charness**


Charness, Gary, Patrick Holder. 2019. Charity in the Laboratory: Matching, Competition, and Group Membership *Management Science.* 1398-1407 A

Charness, Gary (with Michael Naef and Alessandro Sontuoso. 2019. Opportunistic Conformism; *Journal of Economic Theory,* 100-134. A

Charness, Gary (with Dan Levin and David Schmeidler) 2019. An Experimental Study of Estimation and Bidding in Common-Value Auctions with public information”; Journal of Economic Theory, 73-98. A

Charness, Gary, Aldo Rustichini and Jeroen van de Ven. 2018. Self Confidence and Strategic Behavior. Experimental Economics.72-98. A

Charness, Gary, with Catherine Eckel, Uri Gneezy, and Agne Kajackaite. 2018. Complexity in Risk Elicitation May Affect the Conclusions: A Demonstration Using Gender Differences. Journal of Risk and Uncertainty. 56(1), 1-17 A

Charness, Gary, (with Chun-Lei Yang, Boyu Zhang, Jaimie Lien, and Cong Liu. 2018. Endogenous reward promotes cooperation. Proceedings of the National Academy of Sciences 115(40), 9968-9973 A


Devin Cornell


Olivier Deschenes

Deschenes, Olivier with S. Gaines and A. Larsen. Forthcoming. Spatiotemporal Variation in the Relationship Between Landscape Simplification and Insecticide Use. Ecological Applications. A


Steven J C Gaulin


**Michael Gurven**


Gurven, M., Davison, R. 2019. Periodic catastrophes over human evolutionary history are necessary to explain the forager population paradox. *PNAS* 201902406. +doi:10.1073/pnas.1902406116

+ [SUPPLEMENTARY INFORMATION](#) A


+ [SUPPLEMENTARY INFORMATION](#) A


**Natasha Krell**

Krell, Natasha. Forthcoming. Innovations in mobile phone services for agricultural decision-making in Kenya. A

**David Lawson**


**David Lopez-Carr**


Shelly Lundberg


Brenda Major


Dan Meltzer

Karly Marie Miller


Alan Murray


Victor Rios


Heather Royer


**Cecilia Speroni**


**Verta Taylor**


**Edward Telles**


Telles, Edward and Vilma Ortiz. 2018. La Integracion de Mexico-Americanos en Estados Unidos. *Nexos* (Mexico). A

**Sarah Thébaud**


Charles, Maria and Sarah Thébaud, editors. In press. Gender and STEM: Understanding Segregation in Science, Technology, Engineering and Mathematics. *Social Sciences* Special Issue. MDPI.


**Cascade Tuholske**


**John Weeks**


**Catherine Weinberger**


**Howard Winant**


**Anne Wong**

Appendix 2

Active Funding, 2018/2019

Amy Anderson

UCSB Integrated Anthropological Sciences Graduate Student Summer Research Block Grant. 2019. $1,650.

UCSB Integrated Anthropological Sciences Graduate Student Summer Research Block Grant. 2018. $1,970.

2019-20 Graduate Opportunity Fellowship.

UCSB Integrated Anthropological Sciences Graduate Student Research and Writing Grant. $2,000.

Erika Arenas

Ministry of Finance of Mexico, November 2017 –($200,000) as Co-PI for data collection of 4thwave of the Mexican Family Life Survey in the United States.

UC MEXUS Collaborative Grant, June 2017 –Competitive Fellowship($25,000) as PI for the project: The Role of Documentation Status on Mental Health: Evidence using Representative Longitudinal Data.

Kellogg Foundation, June 2017 -Social Stratification of Afro-descendant population in Mexico($360,000) as Co-PI.

CONACYT-SEDESOL, November 2016 –Competitive Fellowship (MXN 18,550,000 pesos/ about US $927,500) as Co-PI of the Mexican Family Life Survey.

Faculty Career Award for UCSB. 2018.

Amy Boddy


Susan Cassels

**Maria Charles**

Carsey-Wolf Center Faculty Research Support Grant, UCSB. 2019. Private Lives-Public Politics: Gender Relations and Gender Ideologies in Middle Eastern, North African and South Asian Countries. Afary, Charles, Friedland. $5,000.

Collaborative Research Initiative Grant (C-RIG), UCSB 2019. Private Lives-Public Politics: Gender Relations and Gender Ideologies in Middle Eastern, North African and South Asian Countries. Afary, Charles, Friedland. $8,000


**Olivier Deschenes**

National Institutes of Health / National Institute of Environmental Health Sciences, Grant number R21ES019375. Using Medication Purchases to Measure the Health Consequences of Air Pollution (with M. Greenstone and J. Shapiro). $334,951.

**Noah Friedkin**

U.S. Department of Defense. 2015-2020. Multidisciplinary University Research Initiative on Social Networks and Team Dynamics in Task-Oriented Groups. 3 UCSB PIs: Noah Friedkin, Ambuj Singh and Francesco Bullo. $6,250,000.


**Michael Gurven**


**Natasha Krell**

Schmidt Family Foundation Environmental Solutions Award. 2019. PI.

Department of Defense Science, Mathematics, and Research for Transformation Scholarship. 2019. PI

Fulbright Fellow to Kenya. 2018. PI.
David Lopez-Carr


David Lawson


**Shelly Lundberg**


**Brenda Major**

UCSB Academic Senate Grant, Testing interventions to alleviate weight stigma effects. $5,200.


**Karly Marie Miller**


**Alan Murray**


**Heather Royer**

UCSB Faculty Senate Grant for Effects of Drinking Water Quality on Infant Health. $10,000.


**Cascade Tuholske**

UCSB President’s Dissertation Year Fellowship. $24,500.
UCSB Faculty Senate Graduate Travel Fellowship. $1,350.
Jack & Laura Dangermond Geography Travel Scholarship. $1,000.
UCSB Dept. of Geography Graduate Summer Research Funding. $2,400.

**John Weeks**

Appendix 3
Honors and Recognition, 2018/19

Maria Charles

Elected Member, Sociological Research Association. (2010-present).

Editorial Board Member, Socius (2017-present).

Consulting Editor and Board Member, Research on Social Stratification and Mobility (2010-present).

Executive Advisory Board, UCSD Center for Research on Gender in the Professions (2010-present).

Gary Charness

Winner, Exeter Prize for Research in Experimental Economics, Decision Theory and Behavioral Economics.


Visiting Professor, Southwestern University of Finance and Economics, Chengdu, Sichuan, China, December. (2012-present).

Associate Editor, Journal of the European Economic Association. (2011-present)

Member, IZA, Bonn, November. (2011-present)

Advisory Editor, Games and Economic Behavior. (2011-present).


Member, CESifo, Munich, December. (2010-present).

Associate Editor, Management Science. (2009-present).

Director, Experimental and Behavioral Economics Laboratory, September. (2007-present).

Editorial Board, Experimental Economics. (2006-present).


Devin Cornell


Top Student Contribution: Institutions, Cognition, and Discursive Fields in Colombian Politics. Examines the contributions of dual-process models to cultural and institutional analysis in the age of mass social media campaigns.

Noah Friedkin

Fellow, American Academy for the Advancement of Science (2017-)


Harrison White Outstanding Book Award, Social Influence Network Theory.

Steven Gaulin


Michael Gurven

Member, National Science Foundation, Cultural Anthropology, Doctoral Dissertation Grant Review Committee. (2009-present).


Unit Chair, Integrative Anthropological Sciences (IAS), UCSB. (2008-present.)

Associate Editor, Evolution and Human Behavior (Elsevier). (2007-present).

Affiliate, Latin American and Iberian Studies Department (2003-present).

Director, Tsimane Health and Life History Project. (2002-present).

Peter Kuhn


Associate Editor, IZA World of Labor. (2013-present).

Associate Editor, IZA Journal of Labor Economics. (2012-present).

Associate Editor, Industrial and Labor Relations Review. (2011-present)

Advisory Board Member, Canadian Labour Market and Skills Research Network (CLSRN). (2011-present)
Visiting Senior Fellow, Institute for the Study of Labor (IZA) Bonn, Germany. (2010- present).

Advisory Board Member, Experimental and Behavioral Economics Lab (EBEL), UCSB. (2007- present).

Fellow, Center for the Study of Poverty and Inequality (Stanford University). (2006- present).


Advisory Board Member, UCSB/Penn State GIS Population Science Program. (2004- present).

Associate Editor, Labour Economics. (2004- present).


Research Fellow, Institute for the Study of Labor (IZA) Bonn. (1999 - present).

David Lawson


David Lopez-Carr


Core Faculty, Spatial Science minor, UCSB. (2010- present).

Affiliate Faculty, Global and International Studies, UCSB. (2010- present).

Research Associate, Center for Comparative Immigration Studies (CCIS) at University of California, San Diego. (2010- present).


Adjunct Faculty, Department of Geography, San Diego State University. (2008- present).


Affiliate Faculty, Interdisciplinary Program in Marine Sciences, UCSB. (2007- present).

Associate Investigator, Santa Barbara Channel (SBC) and Moorea Coral Reef (MCR) Long Term Ecological Research Network (LTER). (2007-present).

Affiliate Faculty, Latin American and Iberian Studies, UCSB. (2006- present).

**Shelly Lundberg**

Doctorate Honoris Causa, University of Bergen, (2012 - present).

Associate Editor, *IZA World of Labor*, (2012- present).


Associate Director, Broom Center for Demography, (2011-present).


Research Fellow, IZA, (2004-present).


Member, Standing Committee on the Future of Major NSF-Funded Social Science Surveys.


**Brenda Major**


2019 Elected to the American Academy of Arts and Sciences

2020 Distinguished Lifetime Career Award, International Society for Self and Identity

**Aashish Mehta**

Senior Collaborator – Center for Nanotechnology and Society, UCSB (2010-Present)

**Victor Rios**

Member, American Sociological Association, Committee on Racial and Ethnic Minorities (2010 - present).

Advisory Board Chair, Chicano Studies Institute UCSB. (2010 - present).

Advisory Board Member, Center for Black Studies UCSB. (2009 - present).


Racial Democracy, Crime and Justice Network Member, Ohio State University/National Science Foundation. (2007 - present).

Present Advisory Board Member, Kirwin Institute for the Study of Race an Ethnicity, Ohio State University, African American Male Project. (2006 - present).

Affiliated Faculty, Center for Culture, Immigration and Youth Violence Prevention University of California, Berkeley, Institute for the Study of Societal Issues. (2005 - present).

**Heather Royer**


Bing Health Scholar, RAND Corporation (2011 - present).

Faculty Research Fellow, National Bureau of Economic Research (2009 - present).

**Cecilia Speroni**

Project director for Mathematica Policy Research.
https://www.mathematica-mpr.com/our-publications-and-findings/projects/research-experiences-for-undergraduates-reu

**Stuart Sweeney**

Editorial Board member, *Spatial Demography* (2011- present)

**Verta Taylor**


Editorial Board, *Social Currents* (2012- present)


Editorial Board, *Social Movement Studies* (2002-present)

Associate Editor, Series on Social Movements, Protest, and Societies in Contention, University of Minnesota Press (1992-present).

Member, Advisory Board, Consortium on Social Movement Studies, Dept. of Political and Social Sciences, European University, Florence, Italy.

*Edward Telles*

Elected Member, American Academy of Arts and Sciences (2018-

Elected Member, Sociological Research Association. (2009-

Editorial Board Member, *Novos Estudos CEBRAP* (Brazil), 2016-

Editorial Board Member, *Ethnic and Racial Studies*, 2012-

Editorial Board Member, *Latin American and Caribbean Ethnic Studies*, 2011-

Editorial Board Member, *Debates en Sociología* (Peru) 2011-

*John Weeks*

Director, International Population Center, San Diego State University (2011 - present)

Member, University Student Learning Outcomes Assessment Committee, (2011-present).

Member, University Research Council, (2010-present).

Senior Fellow, California Council on Science and Technology (2008 - present)


Clinical Professor of Global Public Health, School of Medicine, University of California, San Diego (1998 - present).

Appendix 4
Media Attention and Public Policy Contributions, 2018/2019

Erika Arenas


Michael Gurven


Link to report:  

Press releases:  
http://www.news.ucsb.edu/2018/019248/food-thought
http://www.news.ucsb.edu/2018/019089/weird-science


Media coverage of AJCN paper on Tsimane and Moseten diet:

https://www.medicalnewstoday.com/articles/323584.php


Jeremy’s Iron podcast (about evidence-based science):  

https://www.inverse.com/article/50572-tsimane-amazon-healthy-heart-high-calorie-diet

https://www.dailymail.co.uk/health/article-6359221/Amazonian-tribe-healthiest-hearts-studied.html

Media coverage of PNAS paper:


Media coverage of Pygmy height paper:


Mentioned in NY Times article on HG diets and obesity: 12/18/2018


Interviewed by reporter Iliana Strauss for Huff Post piece on mortality rates before and after advent of antibiotics, human longevity more general – 1/2/2019

https://www.huffingtonpost.com/entry/medication-live-longer-longevity_us_5c1a9231e4b0ce5184b9bce

Part of roundtable discussion on “Uncontacted tribes: forever in isolation” on TRTWorld with David Foster: https://www.trtworld.com/video/roundtable/uncontacted-tribes-forever-in-isolation/5c3cab82ee5fd32a74cad3ee - 1/14/2019

Natasha Krell

UCSB current about Schmidt award: https://www.news.ucsb.edu/2019/019464/sense-urgency.

Shelly Lundberg

Press, October 2018: University Affairs on Family Economics:
https://www.universityaffairs.ca/features/feature-article/putting-the-family-in-economics/


NSF: Women’s History Month
https://medium.com/@NSF/increasing-participation-in-economics-computer-science-and-engineering-a7d104c84650

Heather Royer

Cecilia Speroni

https://www.the74million.org/the-benefits-of-merit-pay-new-study-shows-that-federally-funded-teacher-bonuses-led-to-improved-student-performance/

Sarah Thébaud


John Weeks


Appendix 5

Seminar Schedule, 2018/2019

FALL

Monday, October 8:
Florence Torche (Stanford, Sociology)
“Early disadvantage: The unequal effect of prenatal stress on children’s cognitive and educational outcome.”
Host: Edward Telles

Monday October 22:
Solomon Hsiang (UC Berkeley, Public Policy)
"Global mortality consequences of climate change accounting for adaptation costs and benefits."
Host: Olivier Deschenes

Monday November 5:
Dylan Connor (Arizona State University, Geography)
"Stability and change in the land of opportunity: Geography and intergenerational mobility over the twentieth century."
Host: Stuart Sweeney

Monday November 19:
Jamie Goodwin-White (UC Los Angeles, Geography)
“Go West, Young Woman?: The Geography of the Gender Wage Gap through the Great Recession.
Host Susie Cassels

Monday December 3:
Yu Xie (Princeton University, Sociology)
"Trends in Social Inequality in Post-Revolution China."
Host: Maria Charles

WINTER

Monday January 14:
Barbara Wolfe (University of Wisconsin, Economics)
"The Influence of Poverty on Children's Brains."
Host: Heather Royer

Monday January 28:
Jacqueline Torres (UC San Francisco, Epidemiology & Biostatistics)
"Adult child migration status and cognitive decline among older parents in Mexico."
Host: Erika Arenas
Monday February 11:
Tom Evans (University of Arizona, Geography)
"Influence of population growth vs. climate change perceptions on water governance in Sub-Saharan Africa."
Host: Stuart Sweeney

Monday, March 11:
Michael Emch (University of North Carolina, Geography and Epidemiology)
"Incorporating geographic context into intervention evaluation: cholera and malaria vaccine trials."
Host: Stuart Sweeney

Monday March 18:
Nathan Nunn (Harvard, Economics)
"Social Structure and Conflict: Evidence from Sub-Saharan Africa."
Host: Mike Gurven

SPRING

Monday April 8:
Erika Arenas (UC Santa Barbara, Sociology)
"Impact and Mechanisms of Health Insurance on Adult Mortality: Evidence of Seguro Popular in Mexico."

Monday April 22:
Sharon DeWitte (University of South Carolina, Anthropology)
"Sex, Stress, and Death: Health and Survival in the Context of Medieval Famine and Plague."
Host: Mike Gurven

Monday May 6:
Ken Smith (University of Utah, Family and Consumer Studies)
"Fertility from Fifteen to Fifty: How Reproduction Affects Adult Sex - and Cause-Specific Mortality."
Host: Amy Boddy

Monday May 20:
Youngjoo Cha (Indiana University, Sociology)
"Is the Gender Wage Gap Really a Family Wage Gap in Disguise?"
Host: Sarah Thébaud

Monday, June 3:
Andrew Goodman-Bacon (Vanderbilt University, Economics)
"Changes in Family Structure and Welfare Participation Since the 1960s: The Role of Legal Services."
Host: Heather Royer
Appendix 6

Academic Visitors, 2018/19

Deborah Cobb-Clark (University of Sydney)
November 2018.

Bob Haveman (University of Wisconsin)
January 2019 to March 2019

Barbara Wolfe (University of Wisconsin)
January 2019 to March 2019

Sanna Charlotta Ericsson (Lund University, Sweden)
September 2018 to January 2019

Katrin Sommerfeld (ZEW Mannheim)
January 2019

Xiaoying Liang (China)
December 2018 to December 2019

Yasuko Takezawa (Kyoto University, Japan)
February 2019.
Appendix 7
Graduate Student Research
and Training (GSRT) Grants Awarded, 2018/19

Jason Budge
Sociology
2019 ICPSR, Multilevel Modeling in the Social Sciences in Chapel Hill, NC
Awarded $2,000

Westin McCool
Anthropology
Data purchase for research
Awarded $1,950

Chris Miljanich
Political Science
2019 ICPSR Summer Program in Quantitative Methods of Social Research, Clustered Causal Inference in
Berkeley, CA
Awarded $2,000

Ronnie Steinitz
Anthropology
Hiring field assistants for fieldwork in Kibale National Park in western Uganda.
Awarded $2,000

Maximilian Stiefel
Geography
Attend the Summer School in Survey Methodology (SSSM) at the Research and Expertise Centre
for Survey Methodology in Barcelona, Spain
Awarded $1,500

2019 PAA Travel Grants
To attend and present papers at the 2019 Population Association of America (PAA) Conference
in Austin, TX.
Awarded $500

Maximilian Stiefel, Geography

Note: All recipients are enrolled Ph.D. students at UCSB
Appendix 8

Methods Mini-Courses and Graduate Student Presentations, 2018/19

2018/2019 Mini-Courses

Social Network Analysis in R

• Basics of graph theory, enough to lay the foundation for understanding and manipulating networked data.
• How to turn a toy networked dataset into relational data structures in R
• Explore R functions that can calculate network measures.
• A discussion of other useful ways to use R in social network analysis, including respondent driven sampling to population size estimation techniques.

Introduction to R
Devin Cornell, Sociology
Daniel Cullen, Economics
Thursday, October 18, 3:00

Web Scraping in Python

• What is web scraping and why do we use it?
• Basic structure of an html webpage: easily scraped elements
• Scraping tutorial: from webpage elements to a structured dataset
• Scrape it yourself: testing out your new skills

Max Stiefel, Geography
Monday, February 27

Social Network Analysis
Vania Wang, Geography
June 10, 10-12pm.

Computational Text Analysis
Devin Cornell, Sociology
June 14, 12-2pm.
2018/2019 Lab Lunches

Does differential access to health care by skin tone of pregnant women have consequences on children’s birthweight in Mexico?
Alex Maldonado: Sociology

Birth Timing, Paid Family Leave, and Teachers.
Molly Schwarz: Economics
November 26, 2018
1:00-3:00pm

Is a Computer Science Degree the Golden Ticket? Effects of Race, Place, and Degree Institution on First Job Outcomes in Texas.
Tiffany Chow: Sociology

Acute air pollution and perinatal health: a case study of California wildfires.
Maximilian Stiefel: Geography
March 4, 2019
1:00-3:00pm
Appendix 9

Interdisciplinary PhD Emphasis in Demography

The departments of Anthropology, Economics, Geography, Sociology, and Global Studies are now offering, in cooperation with the Broom Center, a PhD Emphasis in Demography. The goal of this program is to give doctoral students in core disciplines an opportunity to gain a broader interdisciplinary understanding of concepts and methods in population-related research, beyond the resources available in their home departments. Participation in the Demography Emphasis is independent of the doctoral curriculum and degree requirements established by a student’s home department. Upon completion of the requirements, the student will receive a Demography Emphasis certificate when their disciplinary PhD is awarded.

Rationale:

Demography is an interdisciplinary field in the social sciences that focuses on the study of human populations. Increasingly broad in scope, demography now incorporates research on population health, family structure and gender relations, and human-environment and hormone-behavior interactions, as well as the traditional topics of fertility, mortality, and migration. Methodologies developed in one field are crossing disciplinary boundaries as well, with spatial techniques, the collection and analysis of biomarkers, econometric methods, field and laboratory experiments, and qualitative methods such as structured interviewing becoming broadly used across the demographic sciences. Expertise in demography is highly valued in academic and policy environments as a rigorously empirical and multidisciplinary science. A PhD Emphasis in Demography will provide graduate students with both core training in demography and opportunities to gain access to methodological expertise in other departments and to interact with faculty in fields other than their own.

Requirements (in addition to departmental PhD requirements):

1. Core course in demography. Each student will be required to take GEOG 254: Population Geography, usually during their first year in the program. This course will focus on the analysis of human population dynamics through fertility, mortality, and migration. The core course will usually be offered during winter quarter.

2. Population studies courses. Each student must complete three demography-related courses, at least one of which must be outside the student’s own discipline. A list of currently-eligible courses in the four departments appears below.

3. Regular attendance at the Broom Center Seminar. Regular attendance at the biweekly Broom Center seminar for two years (defined as attending at least 80% of all regular seminars) will be required for students enrolled in the Demography Emphasis.

4. Demography seminar/reading group. All students in the Emphasis must attend a one-quarter reading group (ECON 290DM), usually in spring of their first year in the program, that focuses on reading and discussing key research in demography across the participating disciplines.
5. **Broom graduate student seminar presentation.** Each student will be expected to present their research in the Broom Center’s “lab lunch” informal seminar for graduate students.

6. **Dissertation topic.** Completed dissertations that qualify for the Emphasis must consist of (or include, in the case of multi-project dissertations) research with a strong focus in demography, and the committee must include at least one Emphasis core faculty member.

**How to Apply for Admission to the Demography Emphasis Program**

Students enrolled in the PhD programs in the departments of Anthropology, Economics, Geography, and Sociology are eligible to apply for enrollment in the Demography Emphasis. As a rule, applications will be accepted each spring for admission the following fall. Applications should be emailed to the Emphasis director, Shelly Lundberg (slundberg@ucsb.edu) and will consist of a letter outlining the student’s proposed plan of study and dissertation research. In general, students will apply during their first or second year of study at UCSB and begin the program during the subsequent fall quarter. If the student has an advisor, a letter of support should accompany the application.

**Eligible population courses:**

**Anthropology:** ANTH 209 Applying Evolutionary Anthropology (Lawson)
ANTH 245. Anthropological Demography and Life History (Gurven)
ANTH 253. Human Biology Laboratory Methods (Blackwell)
ANTH 256. Modeling Social Behavior (Gurven)
ANTH 257. Human Behavioral Ecology Theory and Method (Gurven)
ANTH 276. Culture Contact and Interaction (Smith)

**Geography:** GEOG 241A-C. Population Geography (Lopez-Carr, Sweeney)
GEOG 288SC. Social and Environmental Disparities in Health (Cassels)

**Sociology:** SOC 226. International Immigration (Telles)
SOC 234. Social Inequalities (Charles)
SOC 245A. Seminar on Gender (Thébaud)
SOC 246. Seminar on the Life Course (Bielby)
SOC 248MA. Social Network Analysis (Friedkin)
SOC 272. Race, Crime, and Punishment (Sutton, Rios)

**Economics:** Labor Economics sequence: ECON 250A-C (Kuhn, Bedard, Royer)
ECON 250D Population Economics (Lundberg)
[Note: This course has no economics prerequisites]