DEPARTMENT OF DEMOGRAPHY

The Department of Demography offers a Master of Science degree and a Doctor of Philosophy degree in Applied Demography. The focus of the Ph.D. program is on the application of demographic analysis to policy issues encountered in the public and private sectors. The program faculty has two broad areas of focus: Health and Inequality, and Migration.

- M.S. in Applied Demography (p. 1)
- Ph.D. in Applied Demography (p. 1)

Master of Science in Applied Demography

The Master of Science in Applied Demography will give students a graduate level introduction to the study of population and how the tools of a demographer are used to guide policy decisions. At the end of the degree program, students will be able to: work with large and complex data sources; analyze these data using appropriate statistical tests; graphically present data using statistical techniques and GIS; and write reports and papers based on empirically based questions using real data.

Admission Requirements

Applicants for admission to the MS in Applied Demography must satisfy all University-wide graduate admission requirements and all applicants must possess a bachelor's degree.

Admission to the MS in Applied Demography program will be based on faculty review of the following required application materials:

1. A completed Graduate School Application Form
2. All official academic transcripts detailing completed undergraduate and graduate (if applicable) coursework
3. A letter of application describing the applicant's academic and work backgrounds and goals and objectives related to the applicant's MS program
4. A writing sample
5. Three letters of recommendation
6. For international students, results of the Test of English as a Foreign Language (TOEFL; minimum score of 60 on the paper version, 79 on the internet version), or results of the International English Language Testing System (IELTS; a minimum score of 6.5).

Degree Requirements

The degree plan includes 21 hours of foundation (required) courses, 6 hours of free electives, and a 3 hour capstone course that will require a final exit paper.

A. 21 semester credit hours of core courses:		21
DEM 5013	Demographic Methods of Analysis	
DEM 5093	GIS for Population Science	
DEM 5113	Social Demography and Community Trends	
DEM 5213	Introduction to Population Data	
DEM 5273	Statistics for Demographic Data I	
DEM 5283	Statistics for Demographic Data II	
One of the following:		
DEM 5033	Mortality	
DEM 5043	Migration	
DEM 5083	Fertility	
B. 6 semester credit hours of electives approved by the Graduate Advisor of Record.		6
MS students will have the option to take any of the 7XX3 courses in the Applied Demography PhD program if they are approved as electives by the Graduate Advisor of Record.		
C. 3 semester credit hours of the Capstone Course.		3
DEM 6383	Capstone	
The grade report for the course is either "CR" (satisfactory performance) or "NC" (unsatisfactory performance).		
D. Comprehensive Exam		
The comprehensive exam will be a research paper evaluated by a committee of the departmental faculty.		
Total Credit Hours		**30**

Doctor of Philosophy Degree in Applied Demography

Students accepted for admission into the Ph.D. program in Applied Demography have the opportunity to engage in advanced study and research in the field of Applied Demography as it applies to questions in such areas as public policy and administration, urban and regional planning, life sciences, medicine, business, and the social sciences. Depending on their area of focus, students may work with faculty from a variety of areas of study offered at UTSA.

The Applied Demography program prepares students to address the expanding education and research problems that are at the intersection of demography, public policy and administration, education, public health, and health care. Students may pursue careers in university departments that teach demography, university-based medical centers, public-health related organizations and agencies, health science centers, national and corporate settings, and local, state and federal government. Students are trained to examine the effects of demographic factors on policy - both private and public.

The regulations for this degree comply with the general University regulations (refer to Student Policies, General Academic Regulations, and the Graduate Catalog, Doctoral Degree Regulations).

Admission Requirements

Applicants for admission to the Ph.D. program in Applied Demography must satisfy all University-wide graduate admission requirements. Entrance to the Ph.D. program can be gained through one of two tracks:

1. Applicant possesses a bachelor's degree (Track I)

2. Applicant possesses a Master of Science degree from an accredited university in demography/sociology, geography, economics, biology, political science, statistics, mathematics, business, or a similar field (Track II). Students who have not earned a qualifying master's degree may be required to complete the equivalent courses in the appropriate discipline area before admission to the Ph.D. program in Applied Demography.

Applicants must submit the following items:

1. A completed Graduate School Application Form
2. All official academic transcripts detailing completed undergraduate and graduate coursework
3. A letter of application describing the applicant's academic and work backgrounds and goals and objectives related to the applicant's Ph.D. program
4. A writing sample
5. Three letters of recommendation
6. Graduate Record Examination (GRE) scores with their application completed no more than five years prior to the Ph.D. student's date of application. All applicants are required to submit scores from the GRE math, verbal, and analytical portions of the examination and scores for a related specialty area. These scores will be considered as only one element in the evaluation of applicants.

Applicants admitted to the Ph.D. program may receive unconditional, conditional, or probationary admission status. Only completed applications will be reviewed. Admission is competitive. Satisfying the minimum requirements does not guarantee admission. In any given application cycle, Ph.D. applicants will be evaluated on the strength of their application materials and also against other applicants in the same pool.

Degree Requirements

The Applied Demography Ph.D. requires students following Track 1 to complete a minimum of 54 hours of organized coursework, 12 hours of doctoral research credits, and a minimum of 12 hours of dissertation credits for a total of at least 78 hours. Students following Track II requires students to complete a minimum of 42 hours of organized coursework and a minimum of 12 hours of dissertation credits for a total of at least 54 hours.

The doctoral program has a base of core courses that will result in all students having a firm grounding in demography and related methodological training with students then choosing their area of specialization. All students are expected to enter the program with some proficiency and aptitude for utilizing statistical software (i.e., SAS, Stata, R). Basic ability to use the DEM-Research server to import and transform data sets and conduct basic statistical analyses is a requirement to be successful with a number of courses, and skills demonstrated by this ability are important to being an applied demographer.

Degree Requirements – Track I

Program of Study for Students Admitted Without a Master's Degree

All students who are accepted into the Doctoral program without a Master's degree (or its coursework equivalent) must successfully complete the program of study below. Students transferring to the Doctoral program from accredited graduate programs but lacking a Master's degree may receive approval to transfer some coursework to UTSA, pending review by the Graduate Program Committee.

Earning a Master's Degree

Students who complete Sections A-C of the Program of Study (30 credit hours), including the Capstone Course1 (p.), will be awarded the M.S. degree, and will be given permission to work toward completion of doctoral requirements. Students who fail their final paper in the Capstone Course may be given one of two options by their Advisory Committee. Those options are: permission to rewrite the final paper based on recommendations of the Instructor OR permission to pursue a terminal M.S. degree according to the requirements of that degree program. All students who successfully complete all required components will earn an M.S. in Applied Demography.

1 (p.) In consultation with the instructor, students will be required to write a final paper in DEM 6383 Capstone Course on a topic of their choice. This will serve as the comprehensive examination requirement for earning an M.S. degree.

Program of Study for Ph.D. in Applied Demography – Track I

Code	Title	Credit Hours
A. Core Methods, Statistics, and Demography Courses		**21**
DEM 5013	Demographic Methods of Analysis	
DEM 5093	GIS for Population Science	
DEM 5113	Social Demography and Community Trends	
DEM 5213	Introduction to Population Data	
DEM 5273	Statistics for Demographic Data I	
DEM 5283	Statistics for Demographic Data II	
One of the following		
DEM 5033	Mortality	
DEM 5043	Migration	
DEM 5083	Fertility	
B. Free Elective Courses (Graduate Advisor of Record approval required)		**6**
C. Capstone Course		**3**
DEM 6383	Capstone	
D. Advanced courses		**24**
1. 3 semester credit hours of required courses		
DEM 7243	General Research Methods for Demographers	
2. 3 semester credit hours to be selected from the following courses:		
DEM 7223	Event History Analysis	
DEM 7263	Spatial Demography	
DEM 7473	Applied Hierarchical Modeling	
DEM 7023	Advanced Methods of Demographic Analysis	
3. 6 semester credit hours to be selected from the following courses:		
DEM 7033	Mortality	
DEM 7043	Migration	
DEM 7083	Fertility	
DEM 7053	International Migration	
4. 12 semester credit hours to be selected from either the Applied Demography or Sociology Concentration		
All courses are to be selected with approval of the Graduate Advisor of Record		
E. Doctoral Research		**12**
F. Doctoral Dissertation		**12**
Total Credit Hours		**78**

Degree Requirements – Track II

Program of Study for Students Admitted With a Master's Degree (from another institution)

All students who are accepted into the Doctoral program with a Master's degree (or its coursework equivalent) must successfully complete the program of study below. Students transferring to the Doctoral program from accredited graduate programs may receive approval to transfer

some coursework to UTSA, pending review by the Graduate Program Committee.

Program of Study for Ph.D. in Applied Demography – Track II

Code	Title	Credit Hours
A. Core Research and Statistics Courses:		**12**
1. Nine semester credit courses of required courses:		
DEM 7243	General Research Methods for Demographers	
DEM 7273	Statistics for Demographic Data I	
DEM 7283	Statistics for Demographic Data II	
2. One additional course to be selected from the following (3 semester credit hours):		
DEM 7023	Advanced Methods of Demographic Analysis	
DEM 7223	Event History Analysis	
DEM 7263	Spatial Demography	
DEM 7473	Applied Hierarchical Modeling	
B. Core Demography Courses:		**18**
1. Nine semester credit hours selected from the following courses:		
DEM 7013	Demographic Methods of Analysis	
DEM 7093	GIS for Population Science	
DEM 7113	Social Demography and Community Trends	
2. Nine semester credit hours of required courses:		
DEM 7033	Mortality	
DEM 7083	Fertility	
DEM 7043	Migration	
or DEM 7053	International Migration	
C. Advanced Courses (a minimum of 12 semester credit hours selected from approved electives is required):		**12**
DEM 7063	Applied Demography in Policy Settings	
DEM 7073	Disparities in Health and Health Care	
DEM 7123	Applied Demography in Education	
DEM 7153	Applied Demography in Public Health	
DEM 7173	Applied Demography in Urban and Regional Planning	
DEM 7183	Social and Economic Impact Assessment	
DEM 7253	Survey Methods for Demographers	
DEM 7423	Demography of the Labor Force and Labor Markets	
DEM 7433	Demography of Race and Ethnicity	
DEM 7443	Demography of Adolescence and the Transition to Adulthood	
DEM 7413	Demography of Inequality and Poverty	
DEM 7453	Sexual and Reproductive Health	
DEM 7463	Family Demography	
DEM 7783	Internship in Applied Demography	
DEM 7803	Directed Research (Maximum 6 hours)	
DEM 7801	Directed Research (Maximum 6 hours)	
DEM 7811	Doctoral Research (Maximum 6 hours)	
DEM 7813	Doctoral Research (Maximum 6 hours)	
DEM 7816	Doctoral Research (Maximum 6 hours)	
DEM 7903	Special Topics (Maximum 9 hours)	
D. Doctoral Dissertation (minimum 12 semester credit hours):		**12**
DEM 7911	Doctoral Dissertation	
DEM 7913	Doctoral Dissertation	
DEM 7916	Doctoral Dissertation	
Total Credit Hours		**54**

Concentration in Applied Demography

Code	Title	Credit Hours
12 semester credit hours selected from the following courses:		
DEM 7063	Applied Demography in Policy Settings	
DEM 7073	Disparities in Health and Health Care	
DEM 7123	Applied Demography in Education	
DEM 7153	Applied Demography in Public Health	
DEM 7173	Applied Demography in Urban and Regional Planning	
DEM 7183	Social and Economic Impact Assessment	
DEM 7253	Survey Methods for Demographers	
DEM 7423	Demography of the Labor Force and Labor Markets	
DEM 7433	Demography of Race and Ethnicity	
DEM 7443	Demography of Adolescence and the Transition to Adulthood	
DEM 7413	Demography of Inequality and Poverty	
DEM 7453	Sexual and Reproductive Health	
DEM 7463	Family Demography	
DEM 7783	Internship in Applied Demography	
DEM 7803	Directed Research (Maximum 6 hours)	
DEM 7801	Directed Research (Maximum 6 hours)	
DEM 7811	Doctoral Research (Maximum 6 hours)	
DEM 7813	Doctoral Research (Maximum 6 hours)	
DEM 7816	Doctoral Research (Maximum 6 hours)	
DEM 7903	Special Topics (Maximum 9 hours)	

Concentration in Sociology

Code	Title	Credit Hours
12 semester credit hours selected from Health, Immigration of Family:		
1. Health		
a. One course (3 semester credit hours):		
DEM 7073	Disparities in Health and Health Care	
b. Three courses to be selected from the following (9 semester credit hours):		
DEM 7153	Applied Demography in Public Health	
SOC 5133	Sociology of Health and Health Care	
SOC 6713	Health Care System in the United States	
SOC 6723	Religion, Health and Mortality	
SOC 6733	The Social Psychology of Health and Illness	
2. Immigration		
a. One course (3 semester credit hours):		
DEM 7433	Demography of Race and Ethnicity	
b. Three courses (9 semester credit hours):		
SOC 5223	Mexican Americans: Community, Culture, and Class	
SOC 5253	Border Studies	
SOC 6043	Immigration and Society	
3. Family		

a. One course (3 semester credit hours):

DEM 7443	Demography of Adolescence and the Transition to Adulthood

b. Three courses to be selected from the following (9 semester credit hours):

SOC 5123	Family Contexts and Social Change
SOC 5323	Sociology of Childhood
SOC 6743	Religion, Spirituality and Families
SOC 6753	Racial/Ethnic Minority Families in the United States
SOC 6763	Youth and Emerging Adulthood
DEM 7063	Applied Demography in Policy Settings
DEM 7123	Applied Demography in Education
DEM 7173	Applied Demography in Urban and Regional Planning
DEM 7183	Social and Economic Impact Assessment
DEM 7253	Survey Methods for Demographers
DEM 7413	Demography of Inequality and Poverty
DEM 7783	Internship in Applied Demography

The entire program of study must be approved by the student's dissertation advisor and graduate committee, and must be submitted to the Dean of the Graduate School through the Dean of the College for Health, Community and Policy for final approval.

Primary Advisor

Initially all students will be advised by the Graduate Advisor of Record (GAR). During the first year in the program, students are encouraged to learn about and meet all faculty members in the Department. Once students entering with a B.A./B.S. (without a Master's Degree) have completed between 30 and 48 credit hours, students should identify a Primary Advisor (not to be completed later than the completion of 60 hours).

Qualifying Exam

Each Ph.D. candidate in the Department of Demography must pass a two-day examination in demography. This qualifying exam is normally taken after the candidate's course work has been substantially completed. In order to take the exam, students matriculating on Track I (entering with a B.S./B.A., without a Master's Degree) must have completed 54 credit hours of coursework. Student in Track II or III must complete 30 credit hours of coursework prior to be eligible for the comprehensive exams. In addition to the credit hour requirements, students must have selected a dissertation topic. The exam will be administered during the summer semester after the requisite credit hours of coursework are complete, and the time of the exam will be set by the GAR in consultation with the Graduate Program Committee (GPC).

Dissertation Stage

Committee

Students are encouraged to work with their Primary Advisor in advance of the qualifying exam to also define a Dissertation Committee. The Dissertation Committee must be comprised of at least four (4) members of the graduate faculty. One of these committee members may be from outside the Department of Demography. The composition of the Committee should, in principle, provide a group of research scholars and scientists who constitute an important resource to the candidate and his/her dissertation research.

Proposal Defense

Upon successful completion of the qualifying examination students will need to defend their dissertation proposal. Once the dissertation proposal has been approved by the student's Dissertation Committee, they may proceed with the dissertation project. If at any time the project changes significantly from what was originally approved, the student will have to orally defend the dissertation proposal again for approval.

Admission to Candidacy

To be admitted to candidacy for the doctoral degree in Applied Demography, the student must receive approval from the GPC. Approval by GPC is contingent upon the following:

1. Satisfactory completion of all required courses and an approved Program of Study form on file with the Graduate Advisor of Record;
2. Cumulative grade point average of at least 3.0 in all coursework undertaken since matriculation in the program;
3. Report by the Qualifying Examination Committee that the student has passed the examination and;
4. Report by the student's Primary Advisor (Dissertation Chair) and other graduate faculty members, as appropriate, that the student has clearly evidenced the potential for productive and independent investigation with a successful dissertation defense.

Supervision of the Dissertation Research

After formal approval of the Doctoral Dissertation Committee, the Dissertation Chair may convene the Doctoral Dissertation Committee at appropriate intervals to discuss with the candidate his/her research progress and projected future work. The Doctoral Dissertation Committee may approve or direct alterations in the research plans within the general context of the dissertation proposal.

Submission of the Dissertation

After all members of the Doctoral Dissertation Committee agree that the research has progressed sufficiently for submission of the dissertation, a draft of the dissertation shall be submitted to the Dissertation Chair and to all other members of the Doctoral Dissertation Committee. It is the responsibility of the candidate to follow the guidelines for preparation of the dissertation provided by the Graduate School Dean's Office. The candidate also has the responsibility to ensure adequate time for review and modification of the dissertation in accordance with the schedule of deadlines provided each term by the Graduate School Dean's Office.

Final Oral Examination

A satisfactory final oral examination is required for the approval of a dissertation. After the Dissertation Committee makes a decision, which must be unanimous, to accept a dissertation for examination, the supervising professor notifies the Graduate School. All members of the Dissertation Committee must be satisfied that the student has:

1. completed the work assigned by the committee
2. passed all examinations required by the program's Graduate Program Committee, including the final oral examination
3. completed a dissertation that is an independent investigation in the major field, and that itself constitutes a contribution to knowledge.

Once this is complete, the Dissertation Committee members sign the approval sheets for the doctoral dissertation and make an official

recommendation to the academic College and the Dean of the Graduate School that the doctoral degree be awarded.

Recommendation for granting of the degree

The candidate shall submit to the Graduate School Office the final electronic copy of the dissertation. Once received, the College for Health, Community and Policy and the Graduate School will consider the recommendation for granting of the degree. If the Council does not approve recommendation, the matter will be referred to Committee on Graduate Studies with recommendations for remedial action. If the Council does approve, the Dean of the Graduate School (UTSA) will notify the President that the candidate has fulfilled all requirements for the degree of Doctor of Philosophy.

Demography (DEM) Courses

DEM 5013. Demographic Methods of Analysis. (3-0) 3 Credit Hours.
Prerequisite: Consent of instructor. Examines basic materials and methods used in demography, including methods for measuring levels and rates of population change, fertility, mortality, migration (both domestic and international), distribution, and composition. Emphasis on cohort and period patterns of change, methods of standardization, and life table methods and population projection methods. (Same as DEM 7013. Credit cannot be earned for both DEM 5013 and DEM 7013.) Course Fee: STSP $9.

DEM 5033. Mortality. (3-0) 3 Credit Hours.
Prerequisite: DEM 5113 or consent of instructor. Theoretical and demographic empirical analysis of current and historical issues concerning epidemiological/health transition, demographic and socioeconomic differentials in health and mortality, infant and child mortality, status of women and health, environment and health, demographic change and nutrition, health care systems, and health planning policies in the United States and in other developed and developing countries. Explores advanced sources of demographic data, measures, and methods of analyses used to analyze the levels and changes in these processes used in applied demographic settings. (Same as DEM 7033. Credit cannot be earned for both DEM 5033 and DEM 7033.) Course Fee: STSP $9.

DEM 5043. Migration. (3-0) 3 Credit Hours.
Prerequisite: DEM 5113 or consent of instructor. Examines patterns, trends and consequences of migration and immigration in the United States and other parts of the world. Explores historical and current theoretical perspectives on migration, analysis of historical, current and projected patterns of migration in the United States and other parts of the world, and examines effects of migration on other demographic, economic, social, and political factors in the United States and elsewhere. (Same as DEM 7043. Credit cannot be earned for both DEM 5043 and DEM 7043.) Course Fee: STSP $9.

DEM 5083. Fertility. (3-0) 3 Credit Hours.
Prerequisite: DEM 5113 or consent of instructor. Theoretical and empirical overview of major issues and methodological approaches in the demographic study of human fertility in developing and developed countries. Explores advanced sources of demographic data, measures, and demographic methods of analyses used to analyze the levels and changes in these processes used in applied settings. (Same as DEM 7083. Credit cannot be earned for both DEM 5083 and DEM 7083.) Course Fee: STSP $9.

DEM 5093. GIS for Population Science. (3-0) 3 Credit Hours.
Prerequisite: Consent of instructor. This course is designed to give graduate students interested in population science and policy fields a hands-on introduction to the use of Geographic Information Systems (GIS). The course will cover geographic data types, spatial data creation and management, exploratory spatial analysis, and basics of geospatial modeling. At the close of the course, students are expected to be able to: create and modify geographic data, perform GIS visualization of spatial data, use database software to manage geographic data and perform descriptive analysis of spatial data using industry-standard GIS software. (Same as DEM 7093. Credit cannot be earned for both DEM 5093 and DEM 7093.) Course Fee: STSP $9.

DEM 5113. Social Demography and Community Trends. (3-0) 3 Credit Hours.
This seminar is a survey of the major themes in demographic research. It will focus on the causes and consequences of demographic change and world population problems and policies, and we will explore the major theoretical perspectives focusing on the interrelationship of social and environmental causes of population change and the dynamics of human populations. (Same as DEM 7113. Credit cannot be earned for both DEM 5113 and DEM 7113.) Course Fee: STSP $9.

DEM 5213. Introduction to Population Data. (3-0) 3 Credit Hours.
Prerequisite: Consent of instructor. The purpose of this course is to introduce students to demographic data and how to use them effectively. Students will use statistical software to learn how to read-in raw data, make data modifications relative to research goals, assess data quality, and conduct basic descriptive statistics. The course will also teach students how to make use of data codebooks and request the use of restricted data. Course Fee: STSP $9.

DEM 5273. Statistics for Demographic Data I. (3-0) 3 Credit Hours.
Prerequisite: Consent of instructor. This course covers two main areas of statistical analysis. First, techniques for the description of univariate and bivariate distributions are covered, including summary statistics, confidence intervals, correlations, graphical exploratory methods and hypothesis testing for two and more groups. Also covered is the analysis of categorical data, including analysis of contingency tables and measures of association for categorical data. Secondly, ordinary least squares regression analysis and analysis of variance procedures and their diagnostics are covered. All methods are complemented by the application to demographic survey data sets and instruction in the Linux environment using either SAS, STATA or R statistical programming languages. (Same as DEM 7273. Credit cannot be earned for both DEM 5273 and DEM 7273.) Course Fee: STSP $9.

DEM 5283. Statistics for Demographic Data II. (3-0) 3 Credit Hours.
Prerequisite: DEM 5273 or consent of instructor. This course represents an in-depth coverage of the general linear model framework, including multivariable regression analysis, logistic and Poisson regression and multilevel modeling. Model fit, model comparison and regression diagnostics for each method are covered. In addition to these topics, students are introduced to techniques for dealing with missing data including multiple imputation. All methods are complemented by the application to demographic survey data sets and instruction in the Linux environment using both the SAS and R/S-plus statistical programming languages. (Same as DEM 7283. Credit cannot be earned for both DEM 5283 and DEM 7283.) Course Fee: STSP $9.

DEM 6383. Capstone. (3-0) 3 Credit Hours.
Prerequisite: Completion of 21 semester credit hours of Required Courses. This course is designed to prepare students to write a final exit paper that serves as the comprehensive exam for completion of the MS program. It covers topics including but not limited to: Demographic Data, Research Methods, Quantitative Analysis, Demographic Processes, Health, and/or Inequality. The grade report for the course is either "CR" (satisfactory performance on the final exit paper) or "NC" (unsatisfactory performance on the final exit paper). Course Fee: STSP $9.

DEM 7013. Demographic Methods of Analysis. (3-0) 3 Credit Hours.
Prerequisite: Consent of instructor. Examines basic materials and methods used in demography, including methods for measuring levels and rates of population change, fertility, mortality, migration (both domestic and international), distribution, and composition. Emphasis on cohort and period patterns of change, methods of standardization, and life table methods and population projection methods. (Formerly titled "Demographic Methods of Analysis I.") (Same as DEM 5013. Credit cannot be earned for both DEM 5013 and DEM 7013.) Course Fee: STSP $9.

DEM 7023. Advanced Methods of Demographic Analysis. (3-0) 3 Credit Hours.
Prerequisite: DEM 7013 or consent of instructor. Examines use of advanced demographic and statistical methods of analysis of population and sample data, including simulating, adjusting, and smoothing; advanced survival analysis, methods of rate decomposition and standardization, population estimation, population projections and evaluations of each. Considers applications of demographic techniques in marketing, management and impact analyses in business and government. (Formerly titled "Demographic Methods of Analysis II.") Course Fee: STSP $9.

DEM 7033. Mortality. (3-0) 3 Credit Hours.
Prerequisite: DEM 7113 or consent of instructor. Theoretical and demographic empirical analysis of current and historical issues concerning epidemiological/health transition, demographic and socioeconomic differentials in health and mortality, infant and child mortality, status of women and health, environment and health, demographic change and nutrition, health care systems, and health planning policies in the United States and in other developed and developing countries. Explores advanced sources of demographic data, measures, and methods of analyses used to analyze the levels and changes in these processes used in applied demographic settings. (Same as DEM 5033. Credit cannot be earned for both DEM 5033 and DEM 7033.) Course Fee: STSP $9.

DEM 7043. Migration. (3-0) 3 Credit Hours.
Prerequisite: DEM 7113 or consent of instructor. Examines patterns, trends and consequences of migration and immigration in the United States and other parts of the world. Explores historical and current theoretical perspectives on migration, analysis of historical, current and projected patterns of migration in the United States and other parts of the world, and examines effects of migration on other demographic, economic, social, and political factors in the United States and elsewhere. (Same as DEM 5043. Credit cannot be earned for both DEM 5043 and DEM 7043.) Course Fee: STSP $9.

DEM 7053. International Migration. (3-0) 3 Credit Hours.
Prerequisite: DEM 7113 or consent of instructor. Examines the determinants and consequences of international migration from theoretical and empirical perspectives. Explores impacts on the migrants themselves and the countries of origin and destination. Specific issues include global competition for skilled labor, the concept of 'replacement migration', and the role of the state in creating and regulating international population movements. Examines public policy implications of the volume and composition of migration for origin and destination countries. Course Fee: STSP $9.

DEM 7063. Applied Demography in Policy Settings. (3-0) 3 Credit Hours.
Prerequisites: DEM 7013, DEM 7023, and DEM 7113, or consent of instructor; student must have a minimum of 30 credit hours in the Applied Demography doctoral program. Examines the roles, duties and implications of being an applied demographer in private- and public-sector policy settings, including required professional skills and knowledge. Provides practical case-study based experience in applying demographic knowledge and methods to such areas of applied analysis as marketing research, site location analysis, impact analyses, advertising analyses, program evaluation, short-term and long-term planning, and similar areas of policy development. Emphasis on interactive and team-based case-study analyses resulting in written reports, and findings presented to governmental or private-sector decision makers. Course Fee: STSP $9.

DEM 7073. Disparities in Health and Health Care. (3-0) 3 Credit Hours.
Prerequisites: DEM 7013 and DEM 7113 or consent of instructor. Overview of current and historical trends and differentials of health, health care access, and health care delivery systems among different racial/ethnic, socioeconomic, and residence area groups in the United States and elsewhere. Examines differentials in the types and rates of incidence and occurrence of alternative forms of disease and disorders, and access to physicians, hospitals and forms of treatment across demographic and socioeconomic groups. Data and methods for assessing such disparities are reviewed and alternative policy options for decreasing such disparities are discussed. Course Fee: STSP $9.

DEM 7083. Fertility. (3-0) 3 Credit Hours.
Prerequisite: DEM 7113 or consent of instructor. Theoretical and empirical overview of major issues and methodological approaches in the demographic study of human fertility in developing and developed countries. Explores advanced sources of demographic data, measures, and demographic methods of analyses used to analyze the levels and changes in these processes used in applied settings. (Same as DEM 5083. Credit cannot be earned for both DEM 5083 and DEM 7083.) Course Fee: STSP $9.

DEM 7093. GIS for Population Science. (3-0) 3 Credit Hours.
Prerequisite: Consent of instructor. This course is designed to give graduate students interested in population science and policy fields a hands-on introduction to the use of Geographic Information Systems (GIS). The course will cover geographic data types, spatial data creation and management, exploratory spatial analysis, and basics of geospatial modeling. At the close of the course, students are expected to be able to: create and modify geographic data, perform GIS visualization of spatial data, use database software to manage geographic data and perform descriptive analysis of spatial data using industry-standard GIS software. (Same as DEM 5093. Credit cannot be earned for both DEM 5093 and DEM 7093.) Course Fee: STSP $9.

DEM 7113. Social Demography and Community Trends. (3-0) 3 Credit Hours.
This seminar is a survey of the major themes in demographic research. It will focus on the causes and consequences of demographic change and world population problems and policies, and we will explore the major theoretical perspectives focusing on the interrelationship of social and environmental causes of population change and the dynamics of human populations. (Same as DEM 5113. Credit cannot be earned for both DEM 5113 and DEM 7113.) Course Fee: STSP $9.

DEM 7123. Applied Demography in Education. (3-0) 3 Credit Hours.
Prerequisite: Consent of instructor. Objectives for this course are focused upon development of an understanding of demographic issues in the field of education and skills in the application of demographic methods and techniques in this area. Topics will include issues of population dynamics related to school enrollment and completion and application of demographic techniques relevant for education related topics. Course Fee: STSP $9.

DEM 7153. Applied Demography in Public Health. (3-0) 3 Credit Hours.
Prerequisite: Consent of instructor. Course work and readings will provide overview of demographic methods applied to examination of issues in the area of public health. A range of public health and epidemiologic topics will be reviewed in relation to issues related to demography and demographic methods. Assignments will provide students with opportunities to examine key issues in public health and explore specific topics of public health relevance. Course Fee: STSP $9.

DEM 7173. Applied Demography in Urban and Regional Planning. (3-0) 3 Credit Hours.
Prerequisite: Consent of instructor. Urban and regional planning is strongly dependent on information generated from applied demography. This course will review the field of urban and regional planning with particular reference to the use of demographic information. Elements of the course will emphasize learning and applying traditional and innovative approaches to estimating and projecting population for small areas with particular reference to issues of geography and land use patterns. Course Fee: STSP $9.

DEM 7183. Social and Economic Impact Assessment. (3-0) 3 Credit Hours.
Prerequisite: Consent of instructor. The purpose of this course is to provide students with an understanding of the requirements of, methodologies for, and issues in, socioeconomic impact assessment and to provide practical, working experience with socioeconomic impact assessment techniques. Course Fee: STSP $9.

DEM 7223. Event History Analysis. (3-0) 3 Credit Hours.
Prerequisites: DEM 7013, DEM 7023, and DEM 7273 or consent of instructor. This course covers event history analysis for events such as unemployment spans, birth intervals, years of healthy life lived, and other codependent demographic events. Further, this course will provide a survey of demographic analytical methods for empirically explaining variation in timing of demographic events. This course will use SAS, R or STATA software. (Formerly titled "Advanced Methods for Life Table Analysis.") Course Fee: STSP $9.

DEM 7243. General Research Methods for Demographers. (3-0) 3 Credit Hours.
Prerequisites: DEM 7013 and DEM 7113 or consent of instructor. Examines key aspects of research methodology and provides an understanding and overview of practical and theoretical methods used to include sampling, interviewing, questionnaire and survey construction, and methods of analysis. The course will examine alternative research perspectives used in writing major publishable articles, and a dissertation in demography. Course Fee: STSP $9.

DEM 7253. Survey Methods for Demographers. (3-0) 3 Credit Hours.
Prerequisite: DEM 7243 or consent of instructor. This course examines the use of survey methodology and the research process, with special attention given to survey instruments as they relate to demographic research. Topics to be covered include a general overview of large demographic surveys, modes of data collection, questionnaire design, reliability and validity, sampling, and analysis incorporating survey designs for various large-scale demographic surveys. Special attention will be given to data collected by the U.S. Bureau of the Census. Statistical software applications will be used as they relate to demographic survey instruments. (Formerly titled “General Research Methods for Demographers II.”) Course Fee: STSP $9.

DEM 7263. Spatial Demography. (3-0) 3 Credit Hours.
Prerequisite: DEM 7093 or consent of instructor. This course will give an in-depth coverage of spatial demographic processes including models of migration, multiregional population growth, and spatial dependence in vital rates. The course will include a brief introduction to Geographic Information Systems, availability of spatial data and construction of geo-databases for population studies. The course will have a large analytical component with topics to include global and local spatial autocorrelation, analysis of spatial point patterns, neighborhood statistics and spatial regression analysis. Emphasis is placed on usage of computer software for the analysis of population data. Course Fee: STSP $9.

DEM 7273. Statistics for Demographic Data I. (3-0) 3 Credit Hours.
Prerequisite: Consent of instructor. This course covers two main areas of statistical analysis. First, techniques for the description of univariate and bivariate distributions are covered, including summary statistics, confidence intervals, correlations, graphical exploratory methods and hypothesis testing for two and more groups. Also covered is the analysis of categorical data, including analysis of contingency tables and measures of association for categorical data. Secondly, ordinary least squares regression analysis and analysis of variance procedures and their diagnostics are covered. All methods are complemented by the application to demographic survey data sets and instruction in the Linux environment using either SAS, STATA or R statistical programming languages. (Formerly titled "Univariate and Categorical Statistical Analysis for Demographic Data.") (Same as DEM 5273. Credit cannot be earned for both DEM 5273 and DEM 7273.) Course Fee: STSP $9.

DEM 7283. Statistics for Demographic Data II. (3-0) 3 Credit Hours.
Prerequisite: DEM 7273 or consent of instructor. This course represents an in-depth coverage of the general linear model framework, including multivariable regression analysis, logistic and Poisson regression and multilevel modeling. Model fit, model comparison and regression diagnostics for each method are covered. In addition to these topics, students are introduced to techniques for dealing with missing data including multiple imputation. All methods are complemented by the application to demographic survey data sets and instruction in the Linux environment using both the SAS and R/S-plus statistical programming languages. (Formerly titled "Multivariate Statistical Analysis for Demographic Data.") (Same as DEM 5283. Credit cannot be earned for both DEM 5283 and DEM 7283.) Course Fee: STSP $9.

DEM 7413. Demography of Inequality and Poverty. (3-0) 3 Credit Hours.
Prerequisite: Consent of instructor. This seminar provides an overview of poverty in the United States from a comparative perspective. It addresses the determinants of poverty, with special attention given to different demographic groups, such as single women with children, race and ethnic minorities, and urban and rural residence. Among the topics to be discussed include the differences between the European and U.S. approach to measuring poverty; the relationship between welfare policies, population growth, and economic development; race and welfare; and the 1996 welfare reform in the United States and its consequences to date. Much emphasis will be given to poverty-abatement strategies. (Formerly titled "Demographic Perspectives on Poverty.") Course Fee: STSP $9.

DEM 7423. Demography of the Labor Force and Labor Markets. (3-0) 3 Credit Hours.
Prerequisite: Consent of instructor. This course introduces students to the study of demographics characteristics of the labor force and of labor markets. It addresses such major social and economic trends as the increased labor force participation of women, the integration of formerly disenfranchised groups into white-collar occupations, and the emergence of a service society. Literature that can help explain these trends will come from gender studies, race and ethnicity, and post-industrialization, in addition to demographic research. Other topics to be discussed cover the study of occupational upgrading; employment, unemployment, and underemployment; regional shifts in employment; the work family relationship; and the role of social policy regarding work, family, and fertility. Course Fee: STSP $9.

DEM 7433. Demography of Race and Ethnicity. (3-0) 3 Credit Hours.
Prerequisite: Consent of instructor. This course is designed to introduce students to the study of the demography of racial and ethnic groups in the United States with some attention to other parts of the world. Using theoretical perspectives drawn from the demographic and race and ethnic literatures, the course will examine demographic, social, and economic variations among major racial and ethnic groups. The course is divided into a series of broad topics covering the study of the demography of racial and ethnic groups including an overview of the construction of race and ethnicity; theoretical perspectives; the foundations of inequality; data and methodological issues; the three population processes (fertility, mortality, and migration); intermarriage and multiracial and pan-ethnic identities; marriage, family, and household arrangements; and labor market and socioeconomic outcomes. Course Fee: STSP $9.

DEM 7443. Demography of Adolescence and the Transition to Adulthood. (3-0) 3 Credit Hours.
Prerequisite: Consent of instructor. Demographers have long considered adolescence and early adulthood as a critical period when significant life choices are made. Important milestones overlap during these years as young people leave school, begin work, form romantic relationships, become independent from parents and begin forming their own families. This seminar explores the different factors that define the timing and progression of this transition and explores demographic and policy implications across different social and cultural contexts. It also highlights the relevance of the life course for the understanding of demographic processes. Course Fee: STSP $9.

DEM 7453. Sexual and Reproductive Health. (3-0) 3 Credit Hours.
Prerequisite: Consent of instructor. The purpose of this course is to introduce students to a number of sexual and reproductive health issues nationally and internationally. The course content will emphasize demographic, social, economic, behavioral, and political factors that affect family planning, reproductive health, fertility, parenthood, and pregnancy/birth outcomes. Emergent sources of data for sexual and reproductive health issues will be discussed. Course Fee: STSP $9.

DEM 7463. Family Demography. (3-0) 3 Credit Hours.
Prerequisite: Consent of instructor. This seminar will examine changes in family behaviors and household relationships from a socio-demographic perspective. Specific topics include union formation and dissolution, childbearing, parenthood, intergenerational relationships, and the intersection of gender, work, and family. Although this course will focus primarily on post-World War II United States, some attention will also be given to recent family changes in other industrialized nations and in the developing world. Demographic data sources pertaining to families and households will be discussed. Course Fee: STSP $9.

DEM 7473. Applied Hierarchical Modeling. (3-0) 3 Credit Hours.
Prerequisite: DEM 7283 or consent of instructor. This course will immerse students in the area of hierarchical modeling. Hierarchical models are fast becoming ubiquitous in the social and behavioral sciences as the availability of longitudinal, geocoded-restricted and panel data sources become the norm. This class will apply techniques of Bayesian computation to hierarchical modeling with less emphasis on the theory of Bayesian analysis, and more on the practical side of its use. Topics will include linear and generalized linear mixed effects models, with special attention to structured random effect models, models for longitudinal data and the application of Bayesian computational techniques. Data examples will include the use of social and health survey data sources, and all students are expected to complete a project using the methods presented in class to their own research interests. Course Fee: STSP $9.

DEM 7701. Professional Development Colloquium. (1-0) 1 Credit Hour.
Prerequisite: Consent of instructor. This is a professional development course focusing on the field of applied demography. Topics will vary by semester, and may include such things as grant writing, proposal preparation, peer-reviewed journal publication procedures, presentation development, demographic data sources and literature, grant funding sources, and job hunting. Other professional development topics will be addressed. May be repeated for credit when topics vary. Course Fee: STSP $3.

DEM 7783. Internship in Applied Demography. (0-0) 3 Credit Hours.
Prerequisites: Consent of faculty advisor for internships and the Graduate Advisor of Record. Student must have a minimum of 40 semester credit hours in the Applied Demography doctoral program. Practical experience in a workplace setting approved by the faculty advisor for internships and the GAR in which classroom knowledge of demographic research, methods, processes, and implications are applied. No more than 3 hours will apply to the Doctoral degree. A research paper under the supervision of assigned faculty is required at the end of the internship. Course Fee: STSP $9.

DEM 7801. Directed Research. (0-0) 1 Credit Hour.
Prerequisites: Consent of instructor and a minimum of 40 semester credit hours in the Applied Demography doctoral program. Directed individual reading, discussion, writing, and/or studies of selected topics in the field of demography. For students needing specialized work not normally or not often available as part of the regular course offerings. May be repeated for credit, but not more than 6 hours will apply to the Doctoral degree. Course Fee: STSP $3.

DEM 7803. Directed Research. (0-0) 3 Credit Hours.
Prerequisites: Consent of instructor and a minimum of 40 semester credit hours in the Applied Demography doctoral program. Directed individual reading, discussion, writing, and/or studies of selected topics in the field of demography. For students needing specialized work not normally or not often available as part of the regular course offerings. May be repeated for credit, but not more than 6 hours will apply to the Doctoral degree. Course Fee: STSP $9.

DEM 7811. Doctoral Research. (0-0) 1 Credit Hour.
Prerequisites: Permission of the Ph.D. Graduate Advisor of Record and dissertation director. Preparation and writing of dissertation proposal. May be repeated for credit, but not more than 6 hours will apply to the Doctoral degree. Course Fee: STSP $3.

DEM 7813. Doctoral Research. (0-0) 3 Credit Hours.
Prerequisites: Permission of the Ph.D. Graduate Advisor of Record and dissertation director. Preparation and writing of dissertation proposal. May be repeated for credit, but not more than 6 hours will apply to the Doctoral degree. Course Fee: STSP $9.

DEM 7816. Doctoral Research. (0-0) 6 Credit Hours.
Prerequisites: Permission of the Ph.D. Graduate Advisor of Record and dissertation director. Preparation and writing of dissertation proposal. May be repeated for credit, but not more than 6 hours will apply to the Doctoral degree. Course Fee: STSP $18.

DEM 7903. Special Topics. (3-0) 3 Credit Hours.
Prerequisite: Consent of instructor. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. May be repeated for credit when topics vary, but not more than 6 hours, regardless of discipline, will apply to the Doctoral degree in Applied Demography. Course Fee: STSP $9.

DEM 7911. Doctoral Dissertation. (0-0) 1 Credit Hour.
Prerequisite: Admission to Candidacy for the Doctoral degree in Applied Demography. May be repeated for credit, but not more than 12 hours may be applied to the Doctoral degree. Course Fee: STSP $3.

DEM 7913. Doctoral Dissertation. (0-0) 3 Credit Hours.
Prerequisite: Admission to Candidacy for the Doctoral degree in Applied Demography. May be repeated for credit, but not more than 12 hours may be applied to the Doctoral degree. Course Fee: STSP $9.

DEM 7916. Doctoral Dissertation. (0-0) 6 Credit Hours.
Prerequisite: Admission to Candidacy for the Doctoral degree in Applied Demography. May be repeated for credit, but not more than 12 hours may be applied to the Doctoral degree. Course Fee: STSP $18.