HSTD 30700
Clinical Epidemiology
Course Instructors: Lianne Kurina & Jerry Krishnan
Offered: 2010-2011; Summer - July 6th-August 20th; T/Th 9:00-11:00am
PQ: Introductory Statistics recommended, may be taken concurrently.
Clinical epidemiology is the "application of epidemiologic principles and methods to problems encountered in clinical medicine." This course introduces the basic principles of epidemiologic study design, analysis and interpretation, with a particular focus on clinical applications. The course includes lectures and discussions based on critical appraisal of significant research articles. The course is primarily intended for, but not restricted to, students with prior clinical training. Health Studies 30700 and 30900 may not both be taken for credit, either will fulfill the basic epidemiology requirement for the MSCP in Health Studies and either will serve as the epidemiology prerequisite for Health Studies 31001.

HSTD 32100
Introduction to Biostatistics
Course Instructor: Paul Rathouz
Offered: 2010-2011; Summer July 6th-August 20th; T/W/Th 3:00-4:20pm
PQ: 2 quarters of precalculus (Required course for MSCP; recommended course for CRTP)
This course will provide an introduction to the basic concepts of statistics as applied to the bio-medical and public health sciences. Emphasis is on the use and interpretation of statistical tools for data analysis. Topics include (i) descriptive statistics; (ii) probability and sampling; (iii) the methods of statistical inference; and (iv) an introduction to linear and logistic regression.
*In addition to the course, there is a statistical computing workshop held on Wednesdays from 10-11:30am in BSLC 018.
HSTD 30500
Issues in Women’s Health
Course Instructor: Lianne Kurina
Offered: 2010-2011 (Alternates); Autumn; T/Th 9:00-10:20am
PQ: BIOS 29317; GNDR 29302; GNDR 30500
The course will focus on important sources of morbidity and mortality in women, such as heart disease, breast cancer, depression, eating disorders, and HIV. In addition to learning about the etiology, biology, and epidemiology of these conditions, we will explore related social, historical, political and cultural issues. The course will be comprised of presentations by the instructor, guest lectures by clinical experts in the condition of interest, and student-led discussions of readings.

HSTD 30900
Principles of Epidemiology
Course Instructor: Ben Lahey
Offered: 2010-2011; Autumn; T/Th 3:00-4:20pm
PQ: Introductory statistics recommended
ID: STAT 35000, PPHA 36400, ENST 27400; BIOS 29318
Epidemiology is the study of the distribution and determinants of health and disease in human populations. This course introduces the basic principles of epidemiologic study design, analysis, and interpretation, through lectures, assignments, and critical appraisal of both classic and contemporary research articles. The course objectives include: (1) To be able to critically read and understand epidemiologic studies; (2) To be able to calculate and interpret measures of disease occurrence and measures of disease-exposure associations; and (3) To understand the contributions of epidemiology to clinical research, medicine and public health.

HSTD 31200
Cancer Epidemiology
Course Instructor: Brian Chiu
Offered: 2010-2011; Autumn; M/W 1:30-2:50pm
PQ: HSTD 30700 or HSTD 30900
The purpose of this course is to review the basic concepts and issues relevant to cancer epidemiology. Specifically, this course will focus on interpreting cancer statistics, and describing the current state of knowledge regarding the etiology and risk factors for the major cancer sites. In addition, issues in research design and interpretation within the context of cancer epidemiology, as well as the molecular and cellular basis of carcinogenesis as it pertains to cancer occurrence in populations will be discussed. The course is appropriate for students who have an introductory knowledge of epidemiology. Previous study of cancer biology is helpful but not required.

HSTD 32400
Applied Regression Analysis
Course Instructor: Dan Heinz
Offered: 2010-2011; Autumn; T/Th 10:30-11:50am
PQ: HSTD 32100; STAT 22000 or equivalent
ID: STAT 22400 (Primary)
This course is an introduction to the methods and applications of fitting and interpreting multiple regression models. The main emphasis is on the method of least squares. Topics include the examination of residuals, the transformation of data, strategies and criteria for the selection of a regression equation, the use of dummy variables, tests of fit. Stata computer package will be used extensively, but previous familiarity with Stata is not assumed. The techniques discussed will be illustrated by real examples involving biological and social science data.
HSTD 33100
Applied Survival Analysis
Course Instructor: James Dignam
Offered: 2010-2011; Autumn; T/Th 10:30-11:50am
PQ: HSTD 32100; STAT 22000; or equivalent, and HSTD 32400/STAT 22400 or equivalent; or consent of instructor.
ID: STAT 35600
This course will provide an introduction to the principles and methods for the analysis of time-to-event data. This type of data occurs extensively in both observational and experimental biomedical and public health studies, as well as in industrial applications. While some theoretical statistical detail is given, (at the level appropriate for a Master's student in statistics), the primary focus will be on data analysis. Problems will be motivated from an epidemiologic and clinical perspective, concentrating on the analysis of cohort data and time-to-event data from controlled clinical trials.

HSTD 33300
Applied Longitudinal Data Analysis
Course Instructor: Ron Thisted
Offered: 2010-2011; Autumn; T/TH 9:00-10:20am
PQ: HSTD 32400/STAT 22400 or equivalent, and HSTD 32600/STAT 22600 or HSTD 32700/STAT 22700 or equivalent; or consent of instructor.
ID: STAT 36900
Longitudinal data consist of multiple measures over time on a sample of individuals. This type of data occurs extensively in both observational and experimental biomedical and public health studies, as well as in studies in sociology and applied economics. This course will provide an introduction to the principles and methods for the analysis of longitudinal data. Whereas some supporting statistical theory will be given, emphasis will be on data analysis and interpretation of models for longitudinal data. Problems will be motivated by applications in epidemiology, clinical medicine, health services research, and disease natural history studies.

HSTD 37100
Cost Effectiveness Analysis
Course Instructor: Willard Manning
Offered: 2010-2011; Autumn; T/Th 10:30-11:50am
PQ: Some microeconomics previous to this course OR the consent of instructor.
ID: PPHA 38200
Cost Effectiveness Analysis (CEA) and Cost Utility Analysis (CUA) are widely used for the economic evaluation of health and medical treatments. Emphasis will be on understanding the basic foundations of CEA/CUA and the implications for the components in the evaluation. The course will address the measurement of health and medical effectiveness, health care and societal costs, and their integration into a formal assessment of alternative treatments. Applications from the literature will be used. By the end of the course, students are expected to be able to critique methods used in published papers.

HSTD 43201
Causal Inference
Course Instructor: Guanglei Hong
Offered: 2010-2011; Autumn; Th 12:00-2:50pm (lecture); F 12:30-1:20pm (lab)
PQ: Intermediate statistics or equivalent.
ID: CHDV 30102 (Primary)
This course is designed for graduate students and advanced undergraduate students from social sciences, education, public policy, health studies, social service administration, and statistics who are involved in quantitative research and are interested in studying causality. The course begins by introducing the notion of counterfactual outcomes and various causal inference techniques that are comparatively new to most social scientists. A major emphasis will be placed on conceptualizing causal questions, comparing alternative research designs, and identifying the assumptions under which a causal effect can be estimated from non-experimental data. In addition to studying experimental, quasi-experimental, and non-experimental designs, students will become familiar with causal inference techniques suitable for evaluating binary treatments, concurrent multi-valued treatments, time-varying treatments, as well as moderated and mediated treatment effects in non-experimental data.
HSTD 30030
Introduction to Global Health
Course Instructor: John Schneider
Offered: 2010-11; Winter, T/Th 3:00-4:20pm
PQ: Open to advanced undergraduates and graduate students
ID: CCTS 43000 (Primary)
Introduction to Global Health provides an overview of global health from the historical perspective to the current state of global health. The course will feature weekly guest lecturers with a broad range of expertise in the field: topics will include the social and economic determinants of health, the economics of global health, global burden of disease, and globalization of health risks, as well as the importance of ethics, human rights and diplomacy in promoting a healthier world. Introduction to Global Health is designed for graduate-level students and senior undergraduates with an interest in global health work in resource-limited settings.

HSTD 31001
Epidemiologic Methods
Course Instructor: Lianne Kurina
Offered: 2010-2011; Winter; T/Th 9:00-10:20am
PQ: HSTD 30700 or HSTD 30900 and HSTD 32400/applied statistics courses through multivariate regression or consent of instructor
ID: STAT 35700
This course expands on the material presented in "Principles of Epidemiology," further exploring issues in the conduct of epidemiologic studies. The student will learn the application of both stratified and multivariate methods to the analysis of epidemiologic data. The final project will be to write the "specific aims" and "methods" sections of a research proposal on a topic of the student's choice.

HSTD 32600
Analysis of Categorical Data
Course Instructor: Mei Wang
Offered: 2010-2011; Winter; T/Th 1:30-2:50pm
PQ: HSTD 32100; STAT 22000; or consent of instructor.
ID: STAT 22600 (Primary)
The course is intended to provide students who already have some experience with linear regression with tools for analyzing data, which are largely categorical (rather than continuous measurements). Such data often arise in epidemiology, medicine, sociology, and other social sciences. The course emphasizes good data analysis practice and use of appropriate statistical methods, rather than focusing on statistical theory. * A strong emphasis is placed on both computational aspects of data analysis and on clear interpretation and presentation of results.
*Students interested in a more theoretical course should consider STAT 34700.

HSTD 32700
Biostatistical Methods
Course Instructor: Lin Chen
Offered: 2010-2011; Winter; T/Th 10:30-11:50am
PQ: HSTD 32400/STAT 22400; or STAT 24500; or equivalent; or consent of instructor
ID: STAT 22700
This course is designed to provide students with tools for analyzing categorical, count and time-to-event data frequently encountered in medicine, public health and related biological and social sciences. The course will emphasize application of the methodology rather than statistical theory, including recognition of the appropriate methods, interpretation and presentation of results. Methods covered include: contingency table analysis, Kaplan-Meier survival analysis, Cox proportional-hazards survival analysis, logistic regression, Poisson regression.
HSTD 38000
Health Status Assessment: Measurement and Inference
Course Instructor: Kate Cagney
Offered: 2010-2011; Winter, M/W 1:30-2:50pm
PQ: Descriptive and bivariate statistics. Recommended: Multivariate statistics, epidemiology
ID: PPHA 38000
This course will be an introduction to survey design and sampling methodology focused on health outcomes and the quality of medical care. We will address two central questions: 1) How do we measure health outcomes and the quality of medical care? 2) How do we insure that the study population is representative of the population of interest? Topics will include concepts of quality and health status assessment, scaling and scoring health status and quality of life measures, assessing validity and reliability of these measures, uses and limitations of outcomes data, sample design, sampling methodology, and survey implementation.

HSTD 38400
Topics in Health Economics
Course Instructor: Tamara Konetzka & Rena Conti
Offered: 2010-2011; Winter, T 3:00-5:50pm
PQ: Graduate courses in microeconomics and econometrics or statistics, including the use of linear and nonlinear regression methods.
The purpose of this course is to provide substantial exposure to the state of the evidence and the major theoretical and empirical approaches used to study salient issues in health economics. Selected topics may vary from year to year; examples include health capital, health insurance, health behaviors, health care market structure and competition, not-for-profit ownership, payment incentives, and the effects of information on provider behavior (e.g. public reporting and value-based purchasing) and consumer behavior (e.g., advertising and medical decision making).
The course is aimed at students who wish to pursue a career in, or related to, health economics. Students will be expected to read each paper in depth, participate in discussions about them, and present and discuss several papers during the quarter. The instructors will assume that students have had prior graduate courses in microeconomics and econometrics or statistics, including the use of linear and nonlinear regression methods.
HSTD 31300
Local and Global Approaches to Infectious Disease Epidemiology
Course Instructor: Michael David & John Schneider
Offered: 2010-2011; Spring; M 10:30-1:20
ID: CCTS 43200
This intermediate-level epidemiology course will provide an up to date perspective on forgotten, contemporary and emerging infections. The course lectures and readings will provide a rigorous examination of the interactions among pathogens, hosts and the environment that result in disease in diverse populations. In addition to the demographic characteristics and the behaviors of individuals that are associated with a high risk of infection, we will examine complex aspects of the environment as they pertain to disease transmission. These include poverty, globalization, social networks, public health, and racial and ethnic disparities. Additionally, we will discuss examples of the use of molecular epidemiology that demonstrate the changing characteristics of certain pathogens. Local and global approaches will be applied to case studies from the United States, Asia and Africa. The epidemiology of human immunodeficiency virus (and other sexually transmitted infections), tuberculosis, malaria, methicillin-resistant Staphylococcus aureus (MRSA), leprosy and influenza, among others, will be addressed.

HSTD 32901
Introduction to Clinical Trials
Course Instructor: James Dignam & Ron Thisted
Offered: 2010-2011; Spring; W 5:00-6:30pm
PQ: HSTD 32100; STAT 22000; introductory statistics; or consent of instructor
ID: STAT 35201
This course will review major components of clinical trial conduct, including the formulation of clinical hypotheses and study endpoints, trial design, development of the research protocol, trial progress monitoring, analysis, and the summary and reporting of results. Other aspects of clinical trials to be discussed include ethical and regulatory issues in human subjects research, data quality control, meta-analytic overviews and consensus in treatment strategy resulting from clinical trials, and the broader impact of clinical trials on public health.

HSTD 35100
Health Services Research Methods
Course Instructor: Tamara Konetzka
Offered: 2010-2011; Spring; M/W 1:30-2:50pm
PQ: At least one course in linear regression and basic familiarity with STATA; or consent of instructor.
ID: SSAD 46300
The purpose of this course is to better acquaint students with the methodological issues of research design and data analysis widely used in empirical health services research. To deal with these methods, the course will use a combination of readings, lectures, problem sets (using STATA), and discussion of applications. The course assumes that students have had a prior course in statistics, including the use of linear regression methods.

HSTD 35200
Demography of Aging and the Life Course
Course Instructor: Kate Cagney
Offered: 2010-2011; Spring; T/Th 10:30-11:50am
PQ: Introductory statistics
ID: SSA 49200; PPHA 36500; SOCI 30310, CHDV 35202
This is a course in population aging and its social, economic and political ramifications. It will examine basic models of demographic and health transitions, trends in aging and health status, characteristics of medical care and long-term care, and the implications of these for the development of public policy. Emphasis will be placed on life course approaches to the study of aging. Specific topics include health, functional status, and well-being; socioeconomic status and inequality; family structure and living arrangements; formal and informal long-term care; early life predictors of health and longevity; generational equity; neighborhood social context. We will begin with micro-level considerations such as health and functional status, then shift the unit of analysis to family formation and social
networks, then to neighborhood effects. We will use the City of Chicago as case study. We will examine the extent to which age, and aging neighborhoods, shape political and social forces in our community. To extend this theme, we will explore in depth the 1995 Chicago heat wave; we will pay particular attention to the roles that social isolation and neighborhood social context play in the lives of older adults.

HSTD 40500
Advanced Epidemiologic Methods
Course Instructor: Dezheng Huo
Offered: 2010-2011; Spring; T/Th 1:30-2:50pm
PQ: HSTD 31001
This course examines some features of study design, but is primarily focused on analytic issues encountered in epidemiologic research. The objective of this course is to enable students to conduct thoughtful analysis of epidemiologic and other population research data. Concepts and methods that will be covered include: matching, sampling, conditional logistic regression, survival analysis, ordinal and polytomous logistic regressions, multiple imputation, and screening and diagnostic test evaluation. The course follows in sequence the material presented in “Epidemiologic Methods.”
HSTD 30030
Introduction to Global Health
Course Instructor: John Schneider
Offered: 2010-11; Winter, T/Th 3:00-4:20pm
PQ: Open to advanced undergraduates and graduate students
ID: CCTS 43000 (Primary)
Introduction to Global Health provides an overview of global health from the historical perspective to the current state of global health. The course will feature weekly guest lecturers with a broad range of expertise in the field: topics will include the social and economic determinants of health, the economics of global health, global burden of disease, and globalization of health risks, as well as the importance of ethics, human rights and diplomacy in promoting a healthier world. Introduction to Global Health is designed for graduate-level students and senior undergraduates with an interest in global health work in resource-limited settings.

HSTD 30500
Issues in Women’s Health
Course Instructor: Lianne Kurina
Offered: 2010-2011 (Alternates); Autumn; T/Th 9:00-10:20am
PQ:
ID: BIOS 29317; GNDR 29302; GNDR 30500
The course will focus on important sources of morbidity and mortality in women, such as heart disease, breast cancer, depression, eating disorders, and HIV. In addition to learning about the etiology, biology, and epidemiology of these conditions, we will explore related social, historical, political and cultural issues. The course will be comprised of presentations by the instructor, guest lectures by clinical experts in the condition of interest, and student-led discussions of readings.

HSTD 30700
Clinical Epidemiology
Course Instructors: Lianne Kurina & Jerry Krishnan
Offered: 2010-2011; Summer - July 6th-August 20th; T/Th 9:00-11:00am
PQ: Introductory Statistics recommended, may be taken concurrently.
Clinical epidemiology is the “application of epidemiologic principles and methods to problems encountered in clinical medicine." This course introduces the basic principles of epidemiologic study design, analysis and interpretation, with a particular focus on clinical applications. The course includes lectures and discussions based on critical appraisal of significant research articles. The course is primarily intended for, but not restricted to, students with prior clinical training. Health Studies 30700 and 30900 may not both be taken for credit, either will fulfill the basic epidemiology requirement for the MSCP in Health Studies and either will serve as the epidemiology prerequisite for Health Studies 31001.

HSTD 30900
Principles of Epidemiology
Course Instructor: Ben Lahey
Offered: 2010-2011; Autumn; T/Th 3:00-4:20pm
PQ: Introductory statistics recommended
ID: STAT 35000, PPHA 36400, ENST 27400; BIOS 29318
Epidemiology is the study of the distribution and determinants of health and disease in human populations. This course introduces the basic principles of epidemiologic study design, analysis, and interpretation, through lectures, assignments, and critical appraisal of both classic and contemporary research articles. The course objectives include: (1) To be able to critically read and understand epidemiologic studies; (2) To be able to calculate and interpret measures of disease occurrence and measures of disease-exposure associations; and (3) To understand the contributions of epidemiology to clinical research, medicine and public health.
HSTD 31001
Epidemiologic Methods
Course Instructor: Lianne Kurina
Offered: 2010-2011; Winter; T/Th 9:00-10:20am
PQ: HSTD 30700 or HSTD 30900 and HSTD 32400/applied statistics courses through multivariate regression or consent of instructor
ID: STAT 35700
This course expands on the material presented in "Principles of Epidemiology," further exploring issues in the conduct of epidemiologic studies. The student will learn the application of both stratified and multivariate methods to the analysis of epidemiologic data. The final project will be to write the "specific aims" and "methods" sections of a research proposal on a topic of the student's choice.

HSTD 31200
Cancer Epidemiology
Course Instructor: Brian Chiu
Offered: 2010-2011; Autumn; M/W 1:30-2:50pm
PQ: HSTD 30700 or HSTD 30900
The purpose of this course is to review the basic concepts and issues relevant to cancer epidemiology. Specifically, this course will focus on interpreting cancer statistics, and describing the current state of knowledge regarding the etiology and risk factors for the major cancer sites. In addition, issues in research design and interpretation within the context of cancer epidemiology, as well as the molecular and cellular basis of carcinogenesis as it pertains to cancer occurrence in populations will be discussed. The course is appropriate for students who have an introductory knowledge of epidemiology. Previous study of cancer biology is helpful but not required.

HSTD 31300
Local and Global Approaches to Infectious Disease Epidemiology
Course Instructor: Michael David & John Schneider
Offered: 2010-2011; Spring; M 10:30-1:20
ID: CCTS 43200
This intermediate-level epidemiology course will provide an up to date perspective on forgotten, contemporary and emerging infections. The course lectures and readings will provide a rigorous examination of the interactions among pathogens, hosts and the environment that result in disease in diverse populations. In addition to the demographic characteristics and the behaviors of individuals that are associated with a high risk of infection, we will examine complex aspects of the environment as they pertain to disease transmission. These include poverty, globalization, social networks, public health, and racial and ethnic disparities. Additionally, we will discuss examples of the use of molecular epidemiology that demonstrate the changing characteristics of certain pathogens. Local and global approaches will be applied to case studies from the United States, Asia and Africa. The epidemiology of human immunodeficiency virus (and other sexually transmitted infections), tuberculosis, malaria, methicillin-resistant Staphylococcus aureus (MRSA), leprosy and influenza, among others, will be addressed.

HSTD 31400
Social Epidemiology
Course Instructor: Diane Lauderdale
Offered: 2008-2009 (Alternates); Spring; T/Th 1:30-2:50pm
PQ: A course in epidemiology, demography, medical sociology or the equivalent, and familiarity with multivariate statistical methods.
This course will examine research that has sought to understand how social factors influence health. We will survey and evaluate different types of measurements used in social epidemiology (such as measurements of socioeconomic status, race, ethnicity, stress, social support and neighborhood characteristics), types of study designs, and debates and theories in the literature. A prior course in epidemiology or closely related filed (such as demography or medical sociology) is highly desirable. Familiarity with the statistical methods used in the literature we will be reading, in particular multivariate regression analysis, is necessary.

HSTD 31510
Critical Readings in Epidemiology
Course Instructor: Epi Faculty
Offered: 2009-2010 (Alternates); Spring; M 3-5:00pm
We will read and critique important and innovative recent papers in epidemiology. Each week, there will be a different substantive or disease focus for the papers. Research areas covered will be primarily, but not exclusively, in noninfectious diseases. Different faculty will lead the discussion each week and students will prepare and present summary critiques of the articles.

HSTD 31601  
Epidemiology of Childhood Diseases  
Course Instructor: Rebecca Lipton  
Offered: 2009-2010; (Alternates) Autumn; Th 4-6:50pm  
This course will familiarize the student with issues unique to research on children as well as the epidemiology of specific childhood diseases. For each topic we will cover general epidemiology and touch on appropriate study designs, confounders and sources of bias, and we will examine a particular syndrome or an important study.

HSTD 31800  
Epidemiology of Mental Health  
Course Instructor: Ben Lahey  
Offered: 2009-2010; (Alternates) Spring; T/Th 1:30-2:50pm  
The course will use a lecture format, but with some seminar elements. Most class time will be devoted to lecture and discussion, but each student will briefly present an overview of one significant article and lead the discussion of that paper. Students will be evaluated using a mid-term and a final written examination. Students may negotiate to replace one examination with a written paper under some circumstances.

HSTD 31820  
Behavior Genetics  
Course Instructor: Ben Lahey  
Offered: TBD  
This course will introduce students to the use of behavior genetic methods in research on population-based samples to draw inferences regarding genetic and environmental causal influences on socially significant aspects of human behavior. Both basic aspects of human behavior, such as intelligence and personality traits, and dysfunctional behavior, including juvenile delinquency and mental health problems, will be addressed. The use of genetically-informative samples to study environmental causes will receive as much coverage as the use of such samples to study genetic causes of variations in behavior. The focus will be on the use of samples of siblings, twins, and adopted children. Basic concepts of genetics will be surveyed and current developments in molecular genetics relevant to human behavior will be discussed. Previous coursework in biology is desirable.

HSTD 31830  
Introduction to Genetic Epidemiology  
Course Instructor: Ben Lahey  
Offered: TBD

HSTD 32100  
Introduction to Biostatistics  
Course Instructor: Paul Rathouz  
Offered: 2010-2011; Summer July 6th-August 20th; T/W/Th 3:00-4:20pm  
PQ: 2 quarters of precalculus (Required course for MSCP; recommended course for CRTP)  
This course will provide an introduction to the basic concepts of statistics as applied to the bio-medical and public health sciences. Emphasis is on the use and interpretation of statistical tools for data analysis. Topics include (i) descriptive statistics; (ii) probability and sampling; (iii) the methods of statistical inference; and (iv) an introduction to linear and logistics regression.  
*In addition to the course, there is a statistical computing workshop held on Wednesdays from 10-11:30am in BSLC 018.
HSTD 32400
Applied Regression Analysis
Course Instructor: Dan Heinz
Offered: 2010-2011; Autumn; T/Th 10:30-11:50am
PQ: HSTD 32100; STAT 22000 or equivalent
ID: STAT 22400 (Primary)
This course is an introduction to the methods and applications of fitting and interpreting multiple regression models. The main emphasis is on the method of least squares. Topics include the examination of residuals, the transformation of data, strategies and criteria for the selection of a regression equation, the use of dummy variables, tests of fit. Stata computer package will be used extensively, but previous familiarity with Stata is not assumed. The techniques discussed will be illustrated by real examples involving biological and social science data.

HSTD 32600
Analysis of Categorical Data
Course Instructor: Mei Wang
Offered: 2010-2011; Winter; T/Th 1:30-2:50pm
PQ: HSTD 32100; STAT 22000; or consent of instructor.
ID: STAT 22600 (Primary)
The course is intended to provide students who already have some experience with linear regression with tools for analyzing data, which are largely categorical (rather than continuous measurements). Such data often arise in epidemiology, medicine, demography, sociology, and other social sciences. The course emphasizes good data analysis practice and use of appropriate statistical methods, rather than focusing on statistical theory.* A strong emphasis is placed on both computational aspects of data analysis and on clear interpretation and presentation of results.
*Students interested in a more theoretical course should consider STAT 34700.

HSTD 32700
Biostatistical Methods
Course Instructor: Lin Chen
Offered: 2010-2011; Winter; T/Th 10:30-11:50am
PQ: HSTD 32400/STAT 22400; or STAT 24500; or equivalent; or consent of instructor
ID: STAT 22700
This course is designed to provide students with tools for analyzing categorical, count and time-to-event data frequently encountered in medicine, public health and related biological and social sciences. The course will emphasize application of the methodology rather than statistical theory, including recognition of the appropriate methods, interpretation and presentation of results. Methods covered include: contingency table analysis, Kaplan-Meier survival analysis, Cox proportional-hazards survival analysis, logistic regression, Poisson regression.

HSTD 32901
Introduction to Clinical Trials
Course Instructor: James Dignam
Offered: 2010-2011; Spring; W 5:00-6:30pm
PQ: HSTD 32100; STAT 22000; introductory statistics; or consent of instructor
ID: STAT 35201
This course will review major components of clinical trial conduct, including the formulation of clinical hypotheses and study endpoints, trial design, development of the research protocol, trial progress monitoring, analysis, and the summary and reporting of results. Other aspects of clinical trials to be discussed include ethical and regulatory issues in human subjects research, data quality control, meta-analytic overviews and consensus in treatment strategy resulting from clinical trials, and the broader impact of clinical trials on public health.

HSTD 33100
Applied Survival Analysis
Course Instructor: James Dignam
Offered: 2010-2011; Autumn; T/Th 10:30-11:50am
This course will provide an introduction to the principles and methods for the analysis of time-to-event data. This type of data occurs extensively in both observational and experimental biomedical and public health studies, as well as in industrial applications. While some theoretical statistical detail is given, (at the level appropriate for a Master's student in statistics), the primary focus will be on data analysis. Problems will be motivated from an epidemiologic and clinical perspective, concentrating on the analysis of cohort data and time-to-event data from controlled clinical trials.

HSTD 33300
Applied Longitudinal Data Analysis
Course Instructor: Ron Thisted
Offered: 2010-2011; Autumn; T/TH 9:00-10:20am
PQ: HSTD 32400/STAT 22400 or equivalent, and HSTD 32600/STAT 22600 or HSTD 32700/STAT 22700 or equivalent; or consent of instructor.
ID: STAT 36900
Longitudinal data consist of multiple measures over time on a sample of individuals. This type of data occurs extensively in both observational and experimental biomedical and public health studies, as well as in studies in sociology and applied economics. This course will provide an introduction to the principles and methods for the analysis of longitudinal data. Whereas some supporting statistical theory will be given, emphasis will be on data analysis and interpretation of models for longitudinal data. Problems will be motivated by applications in epidemiology, clinical medicine, health services research, and disease natural history studies.

HSTD 35100
Health Services Research Methods
Course Instructor: Tamara Konetzka
Offered: 2010-2011; Spring; M/W 1:30-2:50pm
PQ: At least one course in linear regression and basic familiarity with STATA; or consent of instructor.
ID: SSAD 46300
The purpose of this course is to better acquaint students with the methodological issues of research design and data analysis widely used in empirical health services research. To deal with these methods, the course will use a combination of readings, lectures, problem sets (using STATA), and discussion of applications. The course assumes that students have had a prior course in statistics, including the use of linear regression methods.

HSTD 35200
Demography of Aging and the Life Course
Course Instructor: Kate Cagney
Offered: 2010-2011; Spring; T/Th 10:30-11:50am
PQ: Introductory statistics
ID: SSA 49200; PPHA 36500; SOCI 30310, CHDV 35202
This is a course in population aging and its social, economic and political ramifications. It will examine basic models of demographic and health transitions, trends in aging and health status, characteristics of medical care and long-term care, and the implications of these for the development of public policy. Emphasis will be placed on life course approaches to the study of aging. Specific topics include health, functional status, and well-being; socioeconomic status and inequality; family structure and living arrangements; formal and informal long-term care; early life predictors of health and longevity; generational equity; neighborhood social context. We will begin with micro-level considerations such as health and functional status, then shift the unit of analysis to family formation and social networks, then to neighborhood effects. We will use the City of Chicago as case study. We will examine the extent to which age, and aging neighborhoods, shape political and social forces in our community. To extend this theme, we will explore in depth the 1995 Chicago heat wave; we will pay particular attention to the roles that social isolation and neighborhood social context play in the lives of older adults.

HSTD 35301
Aging and Health Policy
Course Instructor: Tamara Konetzka
Offered: 2009-2010 (Alternates); Spring; T 3:00-5:50pm
PQ: Graduate standing or consent of instructor.
ID: PPHA 42401; SSAD 49022
This course is a seminar in aging and health policy and the relationships between policy, financing, access to care, and quality of care for the elderly. The focus is on health care systems and policy as opposed to demography and biological aspects of aging. Specific topics include Medicaid and Medicare policy; long-term care insurance and financing; workforce issues; dementia and end-of-life care; the culture change movement; work and retirement as it relates to health policy; and cross-national comparisons of health policy toward the elderly. Students will engage in an ongoing discussion of policy options and learn to evaluate their potential to improve quality and ensure access for the elderly to health care and long-term care.

HSTD 37100
Cost Effectiveness Analysis
Course Instructor: Willard Manning
Offered: 2010-2011; Autumn; T/Th 10:30-11:50am
PQ: Some microeconomics previous to this course OR the consent of instructor.
ID: PPHA 38200
Cost Effectiveness Analysis (CEA) and Cost Utility Analysis (CUA) are widely used for the economic evaluation of health and medical treatments. Emphasis will be on understanding the basic foundations of CEA/CUA and the implications for the components in the evaluation. The course will address the measurement of health and medical effectiveness, health care and societal costs, and their integration into a formal assessment of alternative treatments. Applications from the literature will be used. By the end of the course, students are expected to be able to critique methods used in published papers.

HSTD 38000
Health Status Assessment: Measurement and Inference
Course Instructor: Kate Cagney
Offered: 2010-2011; Winter; M/W 1:30-2:50pm
PQ: Descriptive and bivariate statistics. Recommended: Multivariate statistics, epidemiology
ID: PPHA 38000
This course will be an introduction to survey design and sampling methodology focused on health outcomes and the quality of medical care. We will address two central questions: 1) How do we measure health outcomes and the quality of medical care?; 2) How do we insure that the study population is representative of the population of interest? Topics will include concepts of quality and health status assessment, scaling and scoring health status and quality of life measures, assessing validity and reliability of these measures, uses and limitations of outcomes data, sample design, sampling methodology, and survey implementation.

HSTD 38300
Health Economics and Public Policy
Course Instructor: Willard Manning
Offered: 2009-2010; Spring; T/Th 10:30-11:50am
PQ: Microeconomics at the level of the Econ 200-201 series or PPHA 323 & 324 or an equivalent of an intermediate microeconomics course and a working knowledge of calculus
ID: PPHA 38300 (Primary); ECON 27700
This course analyzes the economics of health and medical care in the United States with particular attention to the role of government. The first part of the course examines the demand for health and medical and the structure and the consequences of public and private insurance. The second part of the course examines the supply of medical care, including professional training, specialization and compensation, hospital competition, and finance and the determinants and consequences of technological change in medicine. The course concludes with an examination of recent proposals and initiatives for health care reform.

HSTD 38400
Topics in Health Economics
Course Instructor: Tamara Konetzka & Rena Conti
Offered: 2010-2011; Winter; T 3:00-5:50pm
PQ: Graduate standing or consent of instructor.
The purpose of this course is to provide substantial exposure to the state of the evidence and the major theoretical and empirical approaches used to study salient issues in health economics. Selected topics may vary from year to year; examples include health capital, health insurance, health behaviors, health care market structure and competition, not-for-profit ownership, payment incentives, and the effects of information on provider behavior (e.g., public reporting and value-based purchasing) and consumer behavior (e.g., advertising and medical decision making).
The course is aimed at students who wish to pursue a career in, or related to, health economics. Students will be expected to read each paper in depth, participate in discussions about them, and present and discuss several papers during the quarter. The instructors will assume that students have had prior graduate courses in microeconomics and econometrics or statistics, including the use of linear and nonlinear regression methods.

HSTD 39000
Master’s Readings in Health Studies
Course Instructor: Varies
Arrange course content and meeting times with instructor.

HSTD 39100
Master’s Research in Health Studies
Course Instructor: Varies
Arrange course content and meeting times with instructor.

HSTD 40500
Advanced Epidemiologic Methods
Course Instructor: Dezheng Huo
Offered: 2010-2011; Spring; T/Th 1:30-2:50pm
PQ: HSTD 31001
This course examines some features of study design, but is primarily focused on analytic issues encountered in epidemiologic research. The objective of this course is to enable students to conduct thoughtful analysis of epidemiologic and other population research data. Concepts and methods that will be covered include: matching, sampling, conditional logistic regression, survival analysis, ordinal and polytomous logistic regressions, multiple imputation, and screening and diagnostic test evaluation. The course follows in sequence the material presented in “Epidemiologic Methods.”

HSTD 43201
Causal Inference
Course Instructor: Guanglei Hong
Offered: 2010-2011; Autumn; Th 12:00-2:50pm (lecture); F 12:30-1:20pm (lab)
PQ: Intermediate statistics or equivalent.
ID: CHDV 30102 (Primary)
This course is designed for graduate students and advanced undergraduate students from social sciences, education, public policy, health studies, social service administration, and statistics who are involved in quantitative research and are interested in studying causality. The course begins by introducing the notion of counterfactual outcomes and various causal inference techniques that are comparatively new to most social scientists. A major emphasis will be placed on conceptualizing causal questions, comparing alternative research designs, and identifying the assumptions under which a causal effect can be estimated from non-experimental data. In addition to studying experimental, quasi-experimental, and non-experimental designs, students will become familiar with causal inference techniques suitable for evaluating binary treatments, concurrent multi-valued treatments, time-varying treatments, as well as moderated and mediated treatment effects in non-experimental data.

HSTD 49000
Ph.D. Readings in Health Studies
Course Instructor: Varies
Arrange course content and meeting times with instructor.

HSTD 49100
Ph.D. Research in Health Studies
Course Instructor: Varies
Arrange course content and meeting times with instructor.

HSTD 59000
Medical School Readings in Health Studies
Course Instructor: Varies
Arrange course content and meeting times with instructor.
HSTD 59100
Medical School Research in Health Studies
Course Instructor: Varies
Arrange course content and meeting times with instructor.