SCHOOL OF PUBLIC HEALTH

The following courses, listed alphabetically by department, have been approved for graduate credit. Please see the Interdepartmental (IDPT) section for courses which are taught cooperatively by individual departments.

BIOSTATISTICS

BIOS 6601 Applied Biostatistics I **3.0 cr.**
Dr. J. Barnette (Spring, Summer, Fall)
An introduction to statistical methods in the health sciences emphasizing the use of statistics to answer research questions. Content includes descriptive and statistical inference; statistical methods include t-tests, chi-square tests, one-way ANOVA, and linear regression. Statistical software is used.

BIOS 6602 Applied Biostatistics II **3.0 cr.**
Dr. L. Ogden (Spring) Prereq: BIOS 6601.
A continuation of BIOS 6601 extending the basic principles of descriptive and inferential statistics to modeling more complex relationships using linear regression, logistic regression, Poisson regression, and Cox regression. The statistical package SAS is used extensively.

BIOS 6606 Statistics for the Basic Sciences **3.0 cr.**
Dr. D. Everett (Fall, Spring) Restrictions: Enrollment in UCD-AMC graduate program or permission of the instructor.
This course provides an overview of fundamental concepts in statistics such as hypothesis testing and estimation, and it provides an overview of statistical methods (for example, regression and analysis of variance) that apply to many areas of science.

BIOS 6607 Statistics for Pharmacology **2.0 cr.**
Dr. D. Everett (Fall, Springl) Course restrictions: Enrollment in UCD-AMC graduate program or permission of the instructor.
This course provides an overview of fundamental concepts in statistics such as hypothesis testing and estimation, and it provides an overview of statistical methods (for example, 1- and 2- sample tests and microarray techniques) that apply to pharmacology.

BIOS 6611 Biostatistical Methods I **3.0 cr.**
Dr. M. Strand (Fall) Prereq: Differential calculus.
This is a first course in applied statistics covering elementary probability, descriptive, parametric and non-parametric methods for one and two sample estimation/testing and some common simple cases of the univariate general linear model. The statistical package SAS used extensively.

BIOS 6612 Biostatistical Methods II **3.0 cr.**
Dr. L. Ogden (Spring) Prereq: BIOS 6611.
This is a continuation of BIOS 6611 covering univariate linear modeling and emphasizing multiple regression and analysis of variance. Logistic regression and methods for correlated data are also covered. Matrix algebra and the statistical package SAS will be used.

BIOS 6621 Statistical Consulting **1.0 cr.**
Dr. G. Grunwald (Spring, Summer, Fall) Coreq: BIOS 6611 and consent of instructor/program director.
Students will gain experience with statistical consulting and common statistical problems and techniques encountered in consulting through a combination of real examples and consultations with investigators. Under faculty supervision, advanced students will work on consulting projects with investigators.

BIOS 6623 Advanced Data Analysis **3.0 cr.**
Dr. Fingerlin (Fall) Prereq: BIOS 6601 and BIOS 6602 or BIOS 6611 and IOS 6612 or permission off instructorr.
This course teaches the students how to be effective collaborators. Students will learn to modify project hypotheses to be statistical hypotheses. The students will identify and perform the appropriate data analyses and communicate their analyses both verbally and in writing.

BIOS 6631 Statistical Theory I **3.0 cr.**
Dr. M. Strand (Fall) Prereq: Differential and integral calculus.
This course presents an introductory coverage of the theory of discrete and continuous random variables and applications to statistical problems. Topics include probability theory, transformations and expectations, common families of distributions, multiple random variables, and properties of a random sample.

BIOS 6632 Statistical Theory II **3.0 cr.**
Dr. S. MaWhinney (Spring) Prereq: Differential and integral calculus.
This course covers theoretical and applied fundamentals of statistical inference. The course is a continuation of BIOS 6631. The primary topics include point estimation, hypothesis testing, interval estimation and asymptotic methods.

BIOS 6643 Analysis of Longitudinal Data **3.0 cr.**
Dr. M. Strand (Fall) Prereq: BIOS 6632 and BIOS 6612 or permission of instructor.

Theory and application of models appropriate for clustered and longitudinal data are studied. Models for different types of outcome variables (e.g., normal, Poisson, binomial) are covered, with an emphasis on linear mixed models for normal outcomes.

BIOS 6646 Survival Analysis **3.0 cr.**
Dr. A. Barón (Spring) Prereq: BIOS 6611 and BIOS 6631 or permission of instructor. Coreq: BIOS 6612 and BIOS 6632 or permission of instructor.
This course covers the analysis of time-to-event data with applications to biology, medicine, and public health. Nonparametric methods for group comparisons and semi-parametric regression models will be emphasized. Parametric methods and distribution theory for survival analysis will also be included.

BIOS 6648 Design of Clinical Trials **2.0 cr.**
Dr. J. Kittelson (Spring) Prereq: BIOS 6611 or BIOS 6601.
The design and conduct of human intervention trials. Specific topics include: specifying the research question, study endpoints, study populations, study treatments, sample size evaluation, and choice of control groups. Common trial designs and issues in trial monitoring are described.

BIOS 6649 Design of Studies in the Health Sciences **2.0 cr.**
Dr. J. Kittelson (Spring) Prereq: BIOS 6611 or equivalent. Coreq: BIOS 6612 or permission of instructor.
Statistical design of studies in the health sciences including clinical trials, cross-over trials, epidemiological studies. Designs for continuous, binary, count, longitudinal, and time-to-event outcomes. Designs for two-group comparisons, k-group comparison, and regression analyses. Group sequential designs for study monitoring.

BIOS 6651 M.S. Research Paper **1-6 cr.**
Dr. G. Grunwald (Spring, Summer, Fall)
M.S. research paper is completed under this course.

BIOS 6655 Statistical Methods in Genetic Association Studies **3.0 cr.**
Dr. T. Fingerlin (Fall) Prereq: BIOS 6612 or permission of the instructor Cross-listed: BIOI 7655.
This course is designed to give an introduction to statistical methods in genetic association studies. Topics include an introduction to population genetics topics relevant to genetic association studies, design strategies, and analysis methods for case-control and family data.

BIOS 6659 Statistical Methods in Genomics **2.0 cr.**
Dr. K. Kechris (Fall) Prereq: BIOS 6611 or equivalent graduate level statistics course with consent of instructor. Cross-listed: BIOI 7659.
This course will give an introduction to statistical methods for analyzing molecular sequences and genomic data. Topics include hidden Markov models for sequence alignment, molecular evolution and gene expression data analysis.

BIOS 6660 Analysis of High-throughput Data. **2.0 cr.**
Dr. T. Phang (Fall, Spring) Prereq: BIOS 6611 or equivalent.
This course provides students with hands on experience in analyzing full-scale microarray data using the statistical software, R, and its packages from the Bioconductor consortium.

BIOS 6670 Biostatistics: Special Topics in Public Health. **1-3 cr.**
Dr. L. Ogden (Spring, Summer, Fall).
Special interest areas of current preventive medicine research and controversy are analyzed in depth. The course format is lecture and discussion or seminar.

BIOS 6680 SAS Database Design and Management **1-3 cr.**
J. Bondy (Fall)
This course introduces students to SAS programming, specifically how SAS can be used to manipulate data and prepare it for analysis: inputting, recoding, reformatting, subsetting, and merging data, as well as writing simple reports and SAS Macros.

BIOS 6681 Relational Data Management Systems for Medical Research **1.0 cr.**
Dr. D. Lezotte (Spring)
Course provides introduction /experience to build/maintain information systems to facilitate data intensive clinical, epidemiological, health services research in academic health-sciences environment. Course addresses: database design, building data dictionaries, system implementation, maintenance, report writing, exporting data to systems for analyses. .

BIOS 6683 Introduction to health Information Technology **3.0 cr.**
P. Kaplan (Spring) Prereq: Graduate degree in Clinical Sciences or HSMP 6603 or permission of instructor.
Medical Informatics introductory course exposes students to broad spectrum of computer-based applications in clinical medicine/public health areas; with focus on applications that use data/information /knowledge processed by computers to improve quality/efficiency of clinical medicine and delivery of public health services.

BIOS 6840 Research in Biostatistics **1-3 cr.**
Dr. G. Grunwald (Spring, Summer, Fall) Prereq: Consent of Program Director

Resources of the program are available to those students who elect to carry out research in chosen topics. A faculty member will provide guidance throughout the project.

BIOS 6841 Research in Public Health – Independent Study **1-3 cr.**
Dr. L. Ogden (Spring, Summer, Fall) Course Restrictions: Permission of Instructor.
Resources of the department are available to those students who elect to carry out research in chosen topics. A faculty member will provide guidance throughout the project.

BIOS 6950 M.S. Thesis **1-6 cr.**
Dr. G. Grunwald (Spring, Summer, Fall)
M.S. thesis work is completed under this course.

BIOS 7659 Statistical Methods in Genomics **3.0 cr.**
Dr. K. Kechris (Fall) Prereq: BIOS 6611 or permission of instructor.
This course will give an introduction to problems in genomics and review the pioneering statistical methods that were developed for analyzing molecular sequences and microarray data.

BIOS 7711 Longitudinal Data Analysis **3.0 cr.**
Dr. G. Zerbe (Fall) Prereq: BIOS 6612.
The theory and application of univariate and multivariate techniques appropriate for longitudinal data are discussed with emphasis on recently developed growth curve and longitudinal models. Students will be exposed to theoretical developments and will analyze real data.

BIOS 7712 Statistical Methods for Correlated Data **1.0 cr.**
Dr. G. Grunwald (Spring) Prereq: BIOS 7711.
This course will cover special topics in applied statistics. Details of content will be announced by the instructor.

BIOS 7713 Statistical Methods for Missing Data **2.0 cr.**
Dr. D. Fairclough (Spring) Prereq: BIOS 7711 and BIOS 7712.
Course covers methodological research being carried out for longitudinal studies with missing data. Topics include missing data mechanisms, non--ignorable missing data, multiple imputation, mixture models and sample size determination. Students will complete a project applying methods to real datasets.

BIOS 7731 Advanced Mathematical Statistics I **3.0 cr.**
Dr. K. Kechris (Fall) Prereq: BIOS 6631 and BIOS 6632 or equivalent.
This course will provide the framework for understanding the formal concepts, models and assumptions in statistical theory. Topics include random variables, parameter estimation, measures of performance, hypothesis testing and asymptotic approximations.

BIOS 7732 Advanced Mathematical StatisticsII **3.0 cr.**
Dr. J. Kittelson (Spring) Prereq: BIOS 7731 or equivalent.
The foundations of the theory of point estimation. A basic introduction to measure-theoretic probability, integration, and convergence. Large sample theory, interval estimation, and efficient likelihood estimation.

BIOS 7899 Independent Study in Biostatistics **1-4 cr.**
Dr. G. Grunwald (Spring, Summer, Fall) Prereq: Consent of Program Director.
This course is for the advanced student who wishes to pursue one or more topics in depth. These topics may involve biostatistical material or biological material necessary to the student's biostatistical work. Supervision by a full-time faculty member is necessary.

BIOS 8990 Doctoral Thesis **1-10 cr.**
Dr. G. Grunwald (Spring, Summer, Fall)
PhD dissertation work is completed under this course.

COMMUNITY BEHAVIORIAL HEALTH SCIENCES

CBHS 6610 Social and Community Factors in Health **3.0 cr.**
Dr. L. Ogden – (Spring)
Course considers the social/community factors affecting health status, seeking and providing health care. Cross-cultural concepts of health and disease are reviewed. The measurement of selected social/psychological factors, including demographic, socioeconomic and life style indicators and use in epidemiological studies emphasized.

CBHS 6611 Foundations of Health Behavior **3.0 cr.**
Dr. L. Crane – (Fall)
Course will cover basic theories, concepts, models from a range of social/behavioral disciplines used in public health research and practice. Applications of theoretical frameworks in specifying multiple targets and levels of intervention to public health research will be addressed.

CBHS 6612 Methods in Research & Evaluation **3.0 cr.**

Dr. L. Crane – (Spring, Fall)
Course covers the range of social science research methods used in public health, including qualitative/quantitative research designs, data collection methodologies, and program evaluation, including process and outcome evaluation for assessing the effectiveness of public health programs.

CBHS 6613 Program Planning & Implementation **3.0 cr.**
Dr. E. Belansky – (Fall)
Course examines planning and implementation process with specific focus on health promotion programs. Students will learn about: using results of needs assessments; specifying program objectives; using behavior change theory and evidence-based strategies; developing program, evaluation, adoption, implementation & sustainability plans.

CBHS 6620 Survey Research **2.0 cr.**
Dr. L. Crane – (Fall)
Course examines survey research methodology, including the use of face-to-face, telephone and self-administered questionnaires. Topics include: methods of data collection; developing and ordering questions; formatting; determining reliability and validity; methods of sampling; implementation; maximizing response rate; data issues; and reporting.

CBHS 6624 Community Health Assessment **3.0 cr.**
J. Baxter – (Spring) Prereq: EPID 6630.
Community diagnosis provides the means of assessing the social, economic, physical, and environmental status of a community, as these factors affect the health of its population. Students will learn to use national and local demographic and health data resources.

CBHS 6670 Community and Behavioral Halth: Special Topics in Public Health **1-3 cr.**
L. Crane – (Spring, Summer, Fall).
Special interest areas of current preventive medicine research and controversy are analyzed in depth. The course format is lecture and discussion or seminar.

CBHS 6840 Research in Public Health – Independent Study **1-3 cr.**
Dr. P. Barton - (Spring, Summer, Fall) Course Restrictions: Permission of Instructor.
Resources of the department are available to those students who elect to carry out research in chosen topics. A faculty member will provide guidance throughout the project.

ENVIRONMENTAL HEALTH AND OCCUPATIONAL HEALTH

EHOH 6614 Occupational and Environmental Health **3.0 cr.**
Drs. J. Litt - (Spring) Prereq: EPID 6630
Presents an overview of information needed to assess the relationship between the environment, workplace and health. Topics include facets of industrial hygiene, air and water pollution, radiation monitoring, toxicology studies, clinical occupational medicine, and biologic monitoring.

EHOH 6615 Topics in Occupational/Environmental Medicine **2-3 cr.**
Dr. K. Mueller – (Spring, Summer, Fall)
Students presented with series of problems that focus on industries/environmental problems in Denver metropolitan area. The solutions to the problems involve visiting industries, consulting with experts, and learning the principles and practice of toxicology, industrial hygiene, and occupational epidemiology.

EHOH 6616 Environmental & Occupational Toxicology **3.0 cr.**
Dr. L. Newman – (Spring) Prereq: Undergraduate Biology & Chemistry Coreq: EHOH 6614; EPID 6630
Course examines basic and applied concepts of toxicology in environmental/occupational settings. Mechanisms of injury to various body systems following exposure to toxicants are examined at systemic, organ, cellular, molecular, genetic level, with particular reference to human disease and public health.

EHOH 6617 Environmental & Occupational Exposure Assessment **2.0 cr.**
Dr. J. Martyny – (Fall) Prereq: EHOH 6614 Coreq: EPID 6630
Course will provide the methodologies by which environmental hazards can be anticipated, recognized, evaluated and controlled. Methodologies to determine the degree of hazard and personal protection will be covered. Practical experience will be provided by field trips and labs.

EHOH 6618 Environmental Health Policy and Practice **2.0 cr.**
Dr. J. Litt – (Spring) Prereq: EHOH 6614
Course provides a more in-depth examination of environmental health regulations, policies and practices by government agencies and other health-related entities at local, state, national, international level; capturing the continuum of environmental public health core functions , including sustainability and health.

EHOH 6619 Health Effects from Occupational and Environmental Exposures **2.0 cr.**
Dr. C. Rose – (Fall) Prereq:*EHOH 6614 Coreq: EPID 6630 Course Restrictions: *Note:The Prerequisites are recommended but not required.
Course will provide an understanding of spectrum of health effects caused by occupational/environmental hazards. We will explore settings which pose the greatest risk, and emphasize the importance of early recognition,

prevention and hazard control. Field trips will provide practical experience.

EHOH 6670 Environmental and Occupational: Special Topics in Public Health **1-3 cr.**
Dr. J. Litt – (Spring, Summer, Fall)
Special interest area of current preventive medicine research and controversy are analyzed in depth. The course format is lecture and discussion or seminar.

EHOH 6840 Research in Public Health – Independent Study **1-3 cr.**
Dr. J. Litt – (Spring, Summer, Fall) Course Restrictions: Permission of instructor.
Resources of the department are available to those students who elect to carry out research in chosen topics. A faculty member will provide guidance throughout the project.

EPIDEMIOLOGY

EPID 6622 Cancer Prevention and Control **2.0 cr.**
Dr. T. Byers – (Summer) Prereq: EHOH 6614, EPID 6630
Course provides overview of preventable cancers, epidemiology and contributing factors. Phases of cancer control research and appropriate methodologies are discussed. Basic principles of intervention development are reviewed. Psychosocial issues related to cancer are discussed. Students research topic related to course.

EPID 6624 Public Health Surveillance **2.0 cr.**
Dr. K. Gershman – (Spring)
Course focuses on characteristics, development, uses and evaluation of major public health surveillance systems. History, goals, public health authority, analysis, interpretation, dissemination and privacy issues are covered. Key surveillance systems (communicable diseases, vital statistics, injury, cancer) are explored.

EPID 6626 Research Methods in Epidemiology **3.0 cr.**
Dr. D. Lezotte – (Spring) Prereq: BIOS 6601, EPID 6630
Research methods topics include: cohort and case control studies, clinical trials, medical care evaluation, and survey research. Lectures and discussions cover problem statement and hypothesis formulation, study design, data collection and analysis.

EPID 6629 Clinical Epidemiology **1.0 cr.**
Dr. D. Dabelea – (Summer)
Course provides an overview of the design, conduct, and appraisal of clinical research. Topics include choice of study design, issues in randomized trials (bias, measurement, validity), assessment of diagnostic tests, functional status measurement, meta-analysis, and use of questionnaires.

EPID 6630 Epidemiology **1-3 crs.**
Dr. D. Dabelea – (Summer)
Offers introduction to approaches/methods used in describing the natural history of disease in the community and for locating clues to causes of disease and analytical epidemiology used in the study of disease etiology and critical review of the medical literature.

EPID 6631 Analytical Epidemiology **3.0 cr.**
Dr. J. Hokanson – (Spring, Summer, Fall) Prereq: EPID 6630, BIOS 6601.
Course emphasizes analytical foundations of epidemiology and its application to etiologic studies and public health practice. Topics include determining rates of disease occurrence, assessing exposure disease relationships, stratified analysis, measurement error and sampling. Final project requires analysis/interpretation of epidemiologic data.

EPID 6632 UCD Advanced Epidemiology **3.0 cr.**
Dr. J. Marshall - (Spring) Prereq: EPID 6630, EPID 6631, BIOS 6601
This is an advanced course on epidemiologic methods designed to improve the student's ability to conduct and interpret observational epidemiologic studies.

EPID 6635 Epidemiology of Communicable Disease **3.0 cr.**
Dr. C. Nyquist - (Spring) Prereq: EPID 6630.
This course considers the epidemiology of selected communicable diseases. Methods for their prevention and control, and assessment of these methods will be treated primarily through case studies.

EPID 6636 Chronic Disease Epidemiology **3.0 cr.**
Dr. D. Dabelea - (Spring) Prereq: EPID 6630
The major chronic diseases of Western countries will be reviewed including heart disease, cancer, stroke, diabetes, neurological diseases, and selected other conditions. Factual information about epidemiology of these diseases will be provided with the discussion of methodological issues which arise.

EPID 6637 Injury Epidemiology and Control **2.0 cr.**
Dr. C. DiGuiseppi - (Fall)
Major causes of injuries in U.S. will be reviewed. This includes motor vehicle traffic injuries, other unintentional injuries (including occupational injuries) and intentional injuries. The major components of injury control will be discussed

– acute care, biomechanics, epidemiology and surveillance, prevention/rehabilitation.

EPID 6638 Cardiovascular Epidemiology **1.0 cr.**
Dr. J. Hokanson - (Fall) Prereq: EPID 6630.
Course provides practical introduction to current concepts, research methods, unanswered questions in epidemiology of coronary artery disease, stroke/peripheral artery disease. It prepares students for independent work in academic/nonacademic settings in the area of cardiovascular disease surveillance, etiology and outcome research.

EPID 6639 Genetic and Molecular Epidemiology **2.0 cr.**
Dr. J. Norris – (Fall) Prereq: EPID 6630, BIOS 6601
This course reviews basic genetic principles and teaches epidemiologic methods employed in the investigation of the genetic susceptibility to chronic disease. This course also covers the methods, uses, and limitations of modern molecular technologies applied to epidemiological problems.

EPID 6646 Introduction to Systematic Reviews **1.0 cr.**
Dr. C. DiGuiseppi - (Fall) Prereq: EPID 6630, or permission of instructor.
Introduces the rationale and methods off conducting systematic reviews to evaluate health and community interventions. Topics will include designing systematic reviews, study identification and selection, publication bias, assessing study quality, meta-analysis, exploring heterogeneity, and reporting results through the Cochrane Library.

EPID 6840 Research in Public Health – Independent Study **1-3 crs.**
Dr. M Sontag - (Spring, Summer, Fall)
Resources of the department are available to those students who elect to carry out research in chosen topics. A faculty member will provide guidance throughout the project.

EPID 7911 Epidemiologic Field Methods **1-4 crs.**
Dr. D. Dabelea - (Spring, Summer, Fall). Prereq. EPID 6626, EPID 6630, EPID 6631, EPID 6632, BIOS 6611, BIOS 6612. Course Restrictions: Permission of instructor is required.
Ph.D. students have the opportunity to work with faculty on current epidemiologic projects to develop skills in field research, proposal writing, budget development, staff hiring and training, protocol and instrument development and implementation, and specific methods topics.

EPID 7912 Developing a Research Grant **3 crs.**
Dr. D. Dabelea – (Spring, Fall) Prereq: CBHS 6611, EPID 6626, EPID 6630, EPID 6631, EPID 6632, BIOS 6611, BIOS 6612. Course Restrictions: Enrollment in Epidemiology PhD Program or Permission of the instructor
Course instructs students how to prepare quality, successful, research grant applications. It offers students an opportunity to familiarize themselves with the grant writing and review process, enhance critical thinking skills, formulate hypothesis and interpret results, improve quality of scientific writing.

EPID 7915 Analytic Methods in Epidemiology **1-4 crs.**
Dr. D. Dabelea – (Spring, Summer, Fall) Prereq: EPID 6626, EPID 6630, EPID 6631, PRMD 6632, BIOS 6611, BIOS 6612. Course Restrictions: Permission of instructor is required.
Advanced treatment of techniques in the analysis of epidemiological studies, including longitudinal, time-dependent, survival data, causality, missing data, etc. Students will analyze data sets currently on file using contemporary epidemiological methods.

EPID 8990 Doctoral Thesis **Variable cr.**
Dr. D. Dabelea - (Spring, Summer, Fall) Prereq: Consent of the Instructor
Doctoral thesis work Epidemiology

HEALTH SYSTEMS MANAGEMENT AND POLICY

HSMP 6603 Health Sustems and Management **3.0 cr.**
Dr. J. Barnette - (Fall)
First of two-semester sequence to introduce students to US health care system from an organizational/political/social/service delivery perspective. Students are introduced to basic components of current health system and basic economic principles as applied to selected aspects of health care system.

HSMP 6604 Health Care Economics **3.0 cr.**
Dr. J. Barnette - (Spring) Prereq: HSMP 6603.
Course is a sequel to HSMP 6603 focusing on health care financing and economic issues. A microeconomics framework, including issues of supply, demand, market structure, market failure, price and output are discussed as they apply to the health sector.

HSMP 6605 Health Policy **3.0 cr.**
Dr. J. Barnette - (Spring) Prereq: HSMP 6603.
The focus of this course will be the analysis of important US health policy issues, such as access, cost and quality. Analytic concepts, approaches and frameworks will be used to explore specific health policy issues.

HSMP 6606 Public Health Administration **3.0 cr.**

Dr. J. Barnette - (Spring, Fall) Prereq: HSMP 6603 and HSMP 6604 or HSMP 6603 and HSMP 6605.
Course designed to present technical, policy and administrative issues within context of operational activities of community and public health agencies. Introduction to basic management skills is included.

HSMP 6607 Current Legal Issues in Health Care **2.0 cr.**
Dr. J. Barnette - (Spring)
This course will explore American health care policy. Particular emphasis will be placed on the provider's role in addressing issues of justice in health care delivery and the legal tools available to policy makers.

HSMP 6608 Ethical and Legal Issues in Public Health **2.0 cr.**
Dr. J. Barnette - (Spring)
Course explores ethical/legal dimensions of various topics of concern in areas of public health, health policy, epidemiology. Topics: health care reform, medical indigence, screening/genetic screening, epidemiological research, QUALYS and health outcomes research, public health/individual rights, public health in developing countries.

HSMP 6609 Cost Benefit and Effectiveness in Health **3.0 cr.**
Dr. J. Barnette - (Summer)
This is an intermediate level course on the theory, methods and application of economic evaluation in the health context. Students are required to conduct an economic evaluation by collecting data and information related to a health program of interest.

HSMP 6617 Introduction to Health Services Research **2.0 cr.**
Dr. J. Barnette - (Fall) Prereq: HSMP 6603 and HSMP 6604.
Course provides overview of the discipline of health services research (HSR); it is designed for individuals who have completed MSPH prerequisites. Course focuses on four major HSR dimensions and will dedicate two class sessions to each: organizing, financing, delivery, outcomes.

HSMP 6625 Methods in Health Services Research **3.0 cr.**
Dr. J. Barnette– (Spring) Prereq: BIOM 6601, BIOM 6680, HSMP 6603, HSMP 6617, EPID 6626, EPID 6630 Coreq: EPID 6631.
This course provides an overview of research methods in health services. This class is designed for individuals who have completed the MSPH prerequisites and who have taken or are taking EPID 6631.

HSMP 6670 Health Systems: Special Topics in Public Health **1-3 crs.**
Dr. L. Bryant– (Spring, Summer, Fall)
Special interest area of current preventive medicine research and controversy are analyzed in depth. The course format is lecture and discussion or seminar.

HSMP 6840 Research in Public Health – Independent Study **1-4 crs.**

Dr. L. Bryant - (Spring, Summer, Fall) Course Restrictions: Permission of Instructor.
Resources of the department are available to those students who elect to carry out research in chosen topics. A faculty member will provide guidance throughout the project.

HSMP 7850 Independent Study in Bioethics, Medical Humanities or Health Law **1-6 crs.**
Dr. M.Yarborough - (Spring, Summer, Fall) Consent of instructor is required.
Course is designed to meet the needs of students interested in conducting advanced studies of issues and topics in bioethics, medical humanities, or health law. Students will work under the direction of the course director on a specific research topic.

PUBLIC HEALTH - GENERAL

PUBH 6600 Foundations in Public Health **2.0 cr.**
Dr. D. Givray - (Spring, Summer, Fall)
This course examines the historical and conceptual bases of public health, the key issues and problems faced by the public health system, and the tools available for the protection and enhancement of the public's health.

PUBH 6601 A History of Public Health **1.0 cr.**
Dr. M. Johnson - (Spring)
This course is to provide student of public health with broad understanding of public health history and political, economic, medical, legal , ethical factors that have shaped the environment in which the public health care professional of today must function.

PUBH 6602 Healthy People 2010 **1.0 cr.**
Dr. C. DiGuiseppi - (Summer)
The student will understand the development of Healthy People 2010, its organization and content, compare ways that different states use Healthy People 2010 and critically analyze a focus area or objective.

PUBH 6605 Health Equity **2.0 cr.**
Dr. A. Sauaia - (Fall) Prereq: EPID 6630 or EPID 6626 or Permission of Instructor

Course addresses disparities in racial and ethnic minorities, women, children, elderly, low-income, low literacy, disabled, GLBTI by studying the institutionalized, personally mediated and internalized causes. Potential solutions and challenges encountered in the quest for health equity will be discussed.

PUBH 6606 MPH Practicum **2.0 cr.**
Dr. J. Gascoigne - (Spring, Summer, Fall) Prereq: BIOS 6601, CBHS 6610, EHOH 6614, EPID 6630, HSMP 6603, PUBH 6600 OR Permission of the Instructor.
All MPH concentrations require students to successfully complete a practicum in which the student demonstrates competencies and integrates knowledge. It is intended to enrich student's experience by providing an opportunity to apply theory and skills in a public health setting.

PUBH 6619 Perspectives in International Health **2.0 cr.**
Dr. J. Barnette - (Spring)
Review of health care issues and the ways in which various national health care systems are organized or have evolved to deal with these issues. The role of governmental, multi-governmental, philanthropic, voluntary, industrial organizations in international health area are examined.

PUBH 6621 Maternal and Child Health **1.0 cr.**
Dr. C. DiGuiseppi - (Fall)
This course introduces students to several current issues in maternal and child health such as electronic fetal monitoring, well child care, accidents, adolescent pregnancy, child abuse, chronic illness and child advocacy.

PUBH 6641 Public Health and Aging **2.0 cr.**
Dr. L. Bryant – (Summer)
This course will introduce students to 1) factors across the social-ecological spectrum that will affect population patterns of health, disease, and risk factors in older adults; and 2) appropriate responses by public health, aging services and the research community.

PUBH 6651 Research Paper **1-4 crs.**
Dr. J. Barnette - (Spring, Summer, Fall) Prereq: EPID 6626, EPID 6630, BIOS 6601, BIOS 6680.
Independent research project is required of all students. It is anticipated that all projects will involve the analysis of quantitative data. Students have option of completing written report in the form of either a thesis or a publishable research paper.

PUBH 6670 Topics in Preventive Medicine **1-3crs.**
Dr. J. Barnette - (Spring, Summer, Fall)
Special interest areas of current preventive medicine research and controversy are analyzed in depth. The course format is lecture and discussion or seminar.

PUBH 6840 Research in Public Health **1-3crs.**
Dr. J. Barnette - (Spring, Summer, Fall) Course Restrictions: permission of Instructor.
Resources of the department are available to those students who elect to carry out research in chosen topics. A faculty member will provide guidance throughout the project.

PUBH 6910 Research in Public Health **1-3crs.**
Dr. J. Barnette - (Spring, Summer, Fall) Prereq: EPID 6626, EPID 6630, BIOS 6601, BIOS 6680.
Students may work in state and local health departments or industry. Students can participate in ongoing studies in chronic and infectious disease epidemiology, environmental health and community health planning, or develop their own project in conjunction with a preceptor.

PUBH 6950 Master's Thesis **1-3 crs.**
Dr. J. Barnette - (Spring, Summer, Fall) Prereq: EPID 6626, EPID 6630, BIOS 6601, BIOS 6680.
An independent research project is required of all students as a final demonstration of acquired skills and knowledge. Students have the option of completing the written report in the form of either a thesis or a publishable research paper.

PUBH 6955 MPH Masters Projet **2 crs.**
Dr. J. Barnette - (Spring, Summer, Fall) Course Restrictions: Consent of the instructor.
Resources of the department are available to those students who elect to carry out research in chosen topics. Final MPH Master's project is completed under this course.