COLORADO SCHOOL OF PUBLIC HEALTH

The following courses, listed alphabetically by department, have been approved for graduate credit.

**BIOINFORMATICS**

**BIOI 7210**  
**Introduction to Computer Science**  
**3.0 cr.**  
Dr. D. Lezotte  
Prereq: CU-Boulder CSCI 3155 or equivalent. Cross-listed: CU-Boulder CSCI-5582.  
Overview of artificial intelligence methods, theories and applications. Relationships between artificial intelligence and psychology, linguistics and philosophy. Introduction to artificial intelligence programming.

**BIOI 7410**  
**Introduction to Bayesian Statistics**  
**3.0 cr.**  
Dr. M. Fitzgerald  
Prereq: MATH 3800 or MATH 4810 and MATH 4820 or equivalent. Cross-listed: MATH 5396.  
Introduction to Bayesian Statistical Methods. Covers prior and posterior distributions, conjugate models, single and multi parameter models, hierarchical models, mixture models, numerical methods for evaluating posterior distributions, Monte Carlo methods and Markov chain Monte Carlo simulations.

**BIOI 7412**  
**Mathematics for Bioscientists**  
**1.0 cr.**  
Dr. S. Billups  
Prereq: Permission of instructor. Cross-listed: MATH 5198.  
Develops mathematical reasoning; introduces linear algebra, discrete structures, graph theory, probability, and differential equations using applications to molecular biology.

**BIOI 7601**  
**Selected Topics in Biomedical Science for Bioinformatics Students 1**  
**3.3 cr.**  
Dr. D. Lezotte  
Prereq: Permission of bioinformatics Faculty. Cross-listed: IDPT 7801.  
Selected topics in structural, cellular and molecular biology chosen from lectures offered in IDPT 7801.

**BIOI 7602**  
**Selected Topics in Biomedical Science for Bioinformatics Students 2**  
**3.3 cr.**  
Dr. D. Lezotte  
Prereq: Permission of bioinformatics Faculty. Cross-listed: IDPT 7802.  
Selected topics in structural, cellular and molecular biology chosen from lectures offered in IDPT 7802.

**BIOI 7603**  
**Selected Topics in Biomedical Science for Bioinformatics Students 3**  
**3.4 cr.**  
Dr. D. Lezotte  
Prereq: Permission of Bioinformatics Faculty. Cross-listed: IDPT-7803.  
Selected topics in structural, cellular and molecular biology chosen from lectures offered in IDPT 7803.

**BIOI 7605**  
**Ethics and Values in Computational Bioscience Research**  
**1.0 cr.**  
Dr. M.Yarborough  
Prereq: Computational Bioscience PhD student or permission of instructor.  
This course will examine the philosophical basis for current research ethics practices, address current ethical issues and controversies in bio-computational research, and provide students with knowledge and analytical skills to address the ethical dimensions of biomedical informatics.

**BIOI 7606**  
**Statistics for the Basic Sciences**  
**3.0 cr.**  
Dr. D. Everett  
Prereq: Instructor’s Permission. Cross-listed: BIOS 6606.  
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.

**BIOI 7655**  
**Statistical Methods in Genetic Association Studies**  
**3.0 cr.**  
Dr. T. Fingerlin  
Prereq: BIOS 6655. Cross-listed: BIOS 6612 or permission of instructor.  
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.

**BIOI 7659**  
**Statistical Methods in Bioinformatics**  
**2.0 cr.**  
Dr. K. Kechris  
Prereq: BIOS 6611 or equivalent graduate level statistics class with consent of instructor. Cross-listed: BIOS 6659.  
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.

**BIOI 7710**  
**Survey of Bioinformatics Methods**  
**2.0 cr.**  
Dr. L. Hunter  
Prereq: Instructor’s Permission. Restrictions: No Bioinformatics PhD students can take this course for credit.  
What is bioinformatics and why study it? How is large-scale molecular biology data generated, where and how can researchers gain access to it, and what computational analyses are possible?

**BIOI 7711**  
**Bioinformatics I**  
**4.0 cr.**  
Dr. L. Hunter  
Prereq: Bioinformatics PhD student or consent of instructor. Cross-listed: PHCL 7611.  
What is bioinformatics and why study it? How is large-scale molecular biology data generated, where and how can researchers gain access to it, what computational analyses are possible and computational techniques for solving inference problems in molecular biology?
BIOI 7712  Bioinformatics II  4.0 cr.
Dr. L. Hunter (Spring)  Prereq: BIOI 7711
Inference problems and computational techniques for molecular biology, with emphasis on machine learning approaches. Use of computational induction techniques focused on information extraction from biomedical literature, inference of biochemical networks from high-throughput data, and prediction of protein function.

BIOI 7785  Independent Study in Bioinformatics  1-3 cr.
Dr. D. Lezotte (Fall, Spring, Summer)  Prereq: Consent of instructor.
This course is for the advanced student who desires to pursue one or more bioinformatics-related topics in considerable depth. Supervision by a full-time faculty member is necessary.

BIOI 7791  Readings in Bioinformatics  1.0 cr.
Dr. L. Hunter (Fall, Spring, Summer)  Prereq: Consent of instructor.
A seminar course in which students read and present recent publications from the primary bioinformatics literature.

BIOI 7792  Special Topics in Bioinformatics  1-3 cr.
Dr. L. Hunter (Fall, Spring, Summer)  Prereq: Consent of instructor.
Special topics course with focus on new emerging Bioinformatics and Computational Biology problems and techniques.

BIOI 8990  Doctoral Thesis  1-10 cr.
Dr. D. Lezotte (Fall, Spring, Summer)  Prereq: Consent of instructor.
Doctoral thesis work in Bioinformatics.

BIOS 6601  Applied Biostatistics I  3.0 cr.
Dr. J. Kittelson (Fall, Spring)
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 (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 (Spring)  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 (Fall, Spring, Summer)  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.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Instructor(s)</th>
<th>Prereq/Co-req</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOS 6631</td>
<td>Statistical Theory I</td>
<td>3.0 cr.</td>
<td>Dr. M. Strand (Fall)</td>
<td>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.</td>
</tr>
<tr>
<td>BIOS 6632</td>
<td>Statistical Theory II</td>
<td>3.0 cr.</td>
<td>Dr. S. MaWhinney (Spring)</td>
<td>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.</td>
</tr>
<tr>
<td>BIOS 6646</td>
<td>Survival Analysis</td>
<td>2.0 cr.</td>
<td>Dr. A. Barón (Spring)</td>
<td>Prereq: BIOS 6611 and BIOS 6631. Coreq: BIOS 6612 and BIOS 6632. 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.</td>
</tr>
<tr>
<td>BIOS 6648</td>
<td>Design of Clinical Trials</td>
<td>2.0 cr.</td>
<td>Dr. J. Kittelson (Spring)</td>
<td>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.</td>
</tr>
<tr>
<td>BIOS 6649</td>
<td>Statistical Methods for Clinical Trials</td>
<td>1.0 cr.</td>
<td>Dr. J. Kittelson (Spring)</td>
<td>Prereq: BIOS 6611. Coreq: BIOS 6612 and 6648. This course is a companion to BIOS 6648 that focuses on statistical issues in the design and analysis of clinical trials including sample size calculations, trials with repeated measurements, and the statistical aspects of trial monitoring (group sequential designs).</td>
</tr>
<tr>
<td>BIOS 6651</td>
<td>M.S. Research Paper</td>
<td>1-6 cr.</td>
<td>Dr. G. Grunwald (Fall, Spring, Summer)</td>
<td>M.S. research paper is completed under this course</td>
</tr>
<tr>
<td>BIOS 6655</td>
<td>Statistical Methods in Genetic Association Studies</td>
<td>3.0 cr.</td>
<td>Dr. T. Fingerlin (Fall)</td>
<td>Prereq: BIOS 6611 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.</td>
</tr>
<tr>
<td>BIOS 6659</td>
<td>Statistical Methods in Genomics</td>
<td>2.0 cr.</td>
<td>Dr. K. Kechris (Fall)</td>
<td>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.</td>
</tr>
<tr>
<td>BIOS 6680</td>
<td>SAS Database Design and Management</td>
<td>3.0 cr.</td>
<td>J. Bondy (Fall)</td>
<td>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.</td>
</tr>
<tr>
<td>BIOS 6681</td>
<td>Relational Data Management Systems for Medical Research</td>
<td>1.0 cr.</td>
<td>Dr. D. Lezotte (Spring)</td>
<td>This course provides the necessary introduction and experience to build and maintain information systems to facilitate data intensive clinical, epidemiological or health services researchin an academic health sciences environment.</td>
</tr>
<tr>
<td>BIOS 6683</td>
<td>Introduction to health Information Technology</td>
<td>3.0 cr.</td>
<td>P. Kaplan (Spring)</td>
<td>Prereq: Consent of Program Director. An introductory course in Medical Informatics that exposes students to a broad spectrum of computer-based applications in the areas of clinical medicine and public health; with focus on applications that use data, information and knowledge processed by computers.</td>
</tr>
<tr>
<td>BIOS 6684</td>
<td>Research in Biostatistics</td>
<td>1-3 cr.</td>
<td>Dr. G. Grunwald (Fall, Spring, Summer)</td>
<td>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.</td>
</tr>
<tr>
<td>BIOS 6950</td>
<td>M.S. Thesis</td>
<td>1-6 cr.</td>
<td>Dr. G. Grunwald (Fall, Spring, Summer)</td>
<td>M.S. thesis work is completed under this course.</td>
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<tr>
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<td>Prerequisites</td>
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<tr>
<td>BIOS 7711</td>
<td>Longitudinal Data Analysis</td>
<td>3.0 cr.</td>
<td>Dr. G. Zerbe (Fall)</td>
<td>Prereq: BIOS 6612</td>
</tr>
<tr>
<td>BIOS 7712</td>
<td>Statistical Methods for Correlated Data</td>
<td>1.0 cr.</td>
<td>Dr. G. Grunwald (Spring)</td>
<td>Prereq: BIOS 7711</td>
</tr>
<tr>
<td>BIOS 7713</td>
<td>Statistical Methods for Missing Data</td>
<td>2.0 cr.</td>
<td>Dr. D. Fairclough (Spring)</td>
<td>Prereq: BIOS 7711 and BIOS 7712</td>
</tr>
<tr>
<td>BIOS 7899</td>
<td>Independent Study in Biostatistics</td>
<td>1-4 cr.</td>
<td>Dr. G. Grunwald (Fall, Spring, Summer)</td>
<td>Prereq: Consent of Program Director.</td>
</tr>
<tr>
<td>BIOS 8990</td>
<td>Doctoral Thesis</td>
<td>1-10 cr.</td>
<td>Dr. G. Grunwald (Fall, Spring, Summer)</td>
<td>PhD dissertation work is completed under this course.</td>
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**COMMUNITY AND BEHAVIORAL HEALTH**

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<tbody>
<tr>
<td>CBHS 6610</td>
<td>Social and Community Factors in Health</td>
<td>3.0 cr.</td>
<td>Dr. L. Ogden (Spring)</td>
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<tr>
<td>CBHS 6611</td>
<td>Foundations of Health Behavior</td>
<td>3.0 cr.</td>
<td>Dr. L. Crane (Fall)</td>
<td></td>
</tr>
<tr>
<td>CBHS 6612</td>
<td>Methods in Research &amp; Evaluation</td>
<td>3.0 cr.</td>
<td>Dr. L. Crane (Fall, Spring)</td>
<td></td>
</tr>
<tr>
<td>CBHS 6613</td>
<td>Program Planning &amp; Implementation</td>
<td>3.0 cr.</td>
<td>Dr. E. Belansky (Fall)</td>
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</tr>
<tr>
<td>CBHS 6620</td>
<td>Survey Research</td>
<td>2.0 cr.</td>
<td>Dr. L. Crane (Fall)</td>
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</tr>
<tr>
<td>CBHS 6624</td>
<td>Community Health Assessment</td>
<td>3.0 cr.</td>
<td>J. Baxter (Fall)</td>
<td>Prereq: EPID 6630</td>
</tr>
</tbody>
</table>

**ENVIRONMENTAL HEALTH AND OCCUPATIONAL HEALTH**

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>EHOH 6614</td>
<td>Environmental and Occupational Health</td>
<td>3.0 cr.</td>
<td>Dr. J. Litt (Spring)</td>
<td>Prereq: EPID 6630</td>
</tr>
</tbody>
</table>

*University of Colorado Denver Health Sciences Programs 2008-2009*
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 and Environmental Medicine**  
2-3 cr.  
Dr. K. Mueller (Fall, Spring, Summer)  
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 and Occupational Toxicology**  
3.0 cr.  
Dr. L. Newman (Spring)  
Preq: undergraduate biology & chemistry. Coreq: EHOH 6614; EPID 6630  
This course examines basic/applied concepts of toxicology in environmental/occupational settings. Mechanisms of injury to various body systems following exposure to toxicants are examined at the systemic, organ, cellular, molecular, and genetic level, with particular reference to human disease/public health.

**EHOH 6617  Environmental and Occupational Exposure Assessment**  
2.0 cr.  
Dr. J. Martyny (Spring)  
Preq: EHOH 6614. Coreq: EPID 6630  
This 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  
Preq: EHOH 6614  
This course provides a more in-depth examination of environmental health regulations, policies and practices by government agencies and other health-related entities at the local, state, national and international level, capturing the continuum of environmental public health core functions.

**EHOH 6619  Health Effects from Occupational & Environmental Exposures**  
2.0 cr.  
Drs. C. Rose, A. Mayer  
Recommended Preq: EHOH 6614; Coreq: EPID 6630  
Restrictions: Note the Prerequisites are recommended, but not required.  
This course will provide an understanding of the spectrum of health effects caused by occupational and environmental hazards. We will explore the settings which pose the greatest risk, and emphasize the importance of early recognition, prevention and hazard control.

**EPIDEMIOLOGY**

**EID 6622  Cancer Prevention and Control**  
2.0 cr.  
Dr. T. Byers (Summer)  
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.

**EID 6624  Public Health Surveillance**  
2.0 cr.  
This 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.

**EID 6626  Research Methods in Epidemiology**  
3.0 cr.  
Dr. D. Lezotte (Spring)  
Preq: 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.

**EID 6629  Clinical Epidemiology**  
1.0 cr.  
Drs. D. Dabelea, J. Hokanson  
This 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.

**EID 6630  Epidemiology**  
3.0 cr.  
R. Hamman (Fall)  
Offers introduction to approaches/methods used in describing the natural history of disease in the community and for locating clues to the causes of disease, and analytical epidemiology used in study of disease etiology and critical review of the medical literature.
EPID 6631 **Analytical Epidemiology** 3.0 cr.
Dr. J. Hokanson (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 **Advanced Epidemiology** 2.0 cr.
Dr. J. Marshall (Spring) Prereq: EPID 6630, EPID 6631, BIOS 6601
This is a course on epidemiologic methods designed to improve the student's ability to conduct and interpret epidemiologic studies including intervention studies, cohort studies and case control studies.

EPID 6635 **Epidemiology of Communicable Diseases** 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 USA 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 (Spring) 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 **Methods for Systematic Reviews** 1.0 cr.
Dr. C. DiGuiseppi (Spring) Prereq: EPID 6630, or permission of instructor.
Introduces the rationale and methods of 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 7911 **Epidemiologic Field Methods** 1-4 cr.
Dr. D. Dabelea (Fall, Spring, Summer) Prereq: EPID 6626, EPID 6630, EPID 6631, EPID 6632, BIOS 6611, BIOS 6612. Course Restrictions: Permission of instructor is required.
PhD 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 cr.
Dr. D. Dabelea (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 cr.
Dr. D. Dabelea (Fall, Spring, Summer) Prereq: EPID 6626, EPID 6630, EPID 6631, EPID 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, casualty, missing data, etc. Students will analyze data sets currently on file using contemporary epidemiological methods.

EPID 8990 **Doctoral Thesis** 1-10 cr.
Dr. D. Dabelea (Fall, Spring, Summer) Prereq: Permission of the instructor.
Doctoral thesis work in Epidemiology.
## HEALTH SYSTEMS, MANAGEMENT AND POLICY

<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Credits</th>
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<th>Prerequisites</th>
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<tbody>
<tr>
<td>HSMP 6603</td>
<td>Health Systems and Management</td>
<td>3.0 cr.</td>
<td>Dr. P. Barton (Fall)</td>
<td>First of two-semester sequence to introduce students to the USA health care system from an organizational/political/social/service delivery perspective. Students are introduced to basic components of current health care system/basic economic principles as applied to selected aspects of health care system.</td>
</tr>
<tr>
<td>HSMP 6604</td>
<td>Health Care Economics</td>
<td>3.0 cr.</td>
<td>Dr. D. Milne (Spring)</td>
<td>Prereq: HSMP 6603 This course is a sequel to HSMP 6604 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.</td>
</tr>
<tr>
<td>HSMP 6605</td>
<td>Health Policy</td>
<td>3.0 cr.</td>
<td>E. Dauer (Spring)</td>
<td>Prereq: HSMP 6603 The focus of this course will be the analysis of important USA health policy issues, such as access, cost and quality. Analytic concepts, approaches and frameworks will be used to explore specific significant health policy issues.</td>
</tr>
<tr>
<td>HSMP 6606</td>
<td>Public Health Administration</td>
<td>3.0 cr.</td>
<td>Dr. P. Barton (Fall, Spring)</td>
<td>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.</td>
</tr>
<tr>
<td>HSMP 6607</td>
<td>Current Legal Issues in Health Care</td>
<td>2.0 cr.</td>
<td>D. Matthew (Spring)</td>
<td>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.</td>
</tr>
<tr>
<td>HSMP 6608</td>
<td>Ethical and Legal Issues in Public Health</td>
<td>2.0 cr.</td>
<td>Dr. J. Glover (Spring)</td>
<td>This 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.</td>
</tr>
<tr>
<td>HSMP 6609</td>
<td>Cost Benefit and Effectiveness in Health</td>
<td>3.0 cr.</td>
<td>Dr. S. Eisert (Summer)</td>
<td>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.</td>
</tr>
<tr>
<td>HSMP 6617</td>
<td>Introduction to Health Services Research</td>
<td>2.0 cr.</td>
<td>Faculty (Fall)</td>
<td>Prereq: HSMP 6603 and 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.</td>
</tr>
<tr>
<td>HSMP 6625</td>
<td>Methods in Health Services Research</td>
<td>3.0 cr.</td>
<td>Phoebe Barton (Spring)</td>
<td>Prereq: BIOM 6601, BIOM 6680, HSMP 6603, HSMP 6617, EPID 6626, EPID 6630. 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 taking EPID 6631.</td>
</tr>
<tr>
<td>HSMP 7850</td>
<td>Independent Study in Bioethics, Medical Humanities or Health Law</td>
<td>1-6 cr.</td>
<td>Dr. M.Yarborough (Fall, Spring, Summer)</td>
<td>Permission 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.</td>
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</table>

## PUBLIC HEALTH

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Instructors</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>PUBH 6600</td>
<td>Foundations in Public Health</td>
<td>2.0 cr.</td>
<td>Dr. K. Kennedy (Summer)</td>
<td>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.</td>
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<tr>
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<td>Instructor(s)</td>
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<tr>
<td>PUBH 6601</td>
<td>A History of Public Health</td>
<td>1.0 cr.</td>
<td>Dr. M. Johnson (Fall)</td>
<td>This course is to provide the student of public health with a broad understanding of public health history and the political, economic, medical, legal and ethical factors that have shaped the environment in which the public health care professional must function.</td>
</tr>
<tr>
<td>PUBH 6602</td>
<td>Healthy People 2010</td>
<td>1.0 cr.</td>
<td>Dr. C. DiGuiseppi (Summer)</td>
<td>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.</td>
</tr>
<tr>
<td>PUBH 6605</td>
<td>Health Equity</td>
<td>2.0 cr.</td>
<td>Dr. A. Sauaia (Spring)</td>
<td>This 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.</td>
</tr>
<tr>
<td>PUBH 6619</td>
<td>Perspectives in International Health</td>
<td>2.0 cr.</td>
<td>Dr. P. Barton (Fall)</td>
<td>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.</td>
</tr>
<tr>
<td>PUBH 6621</td>
<td>Maternal and Child Health</td>
<td>1.0 cr.</td>
<td>Dr. C. DiGuiseppi (Fall)</td>
<td>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.</td>
</tr>
<tr>
<td>PUBH 6641</td>
<td>Public Health and Aging</td>
<td>2.0 cr.</td>
<td>Dr. L. Bryant (Summer)</td>
<td>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.</td>
</tr>
<tr>
<td>PUBH 6651</td>
<td>Research Paper</td>
<td>1-4 cr.</td>
<td>Dr. P. Barton (Fall, Spring, Summer)</td>
<td>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.</td>
</tr>
<tr>
<td>PUBH 6670</td>
<td>Topics in Public Health</td>
<td>1-3 cr.</td>
<td>Dr. P. Barton (Fall, Spring, Summer)</td>
<td>Special interest areas of current preventive medicine research and controversy are analyzed in depth. The course format is lecture and discussion or seminar.</td>
</tr>
<tr>
<td>PUBH 6840</td>
<td>Research in Public Health</td>
<td>1-3 cr.</td>
<td>Dr. P. Barton (Fall, Spring, Summer)</td>
<td>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.</td>
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<tr>
<td>PUBH 6910</td>
<td>MPH Field Practicum</td>
<td>1-3 cr.</td>
<td>Dr. P. Barton (Fall, Spring, Summer)</td>
<td>Students may work in state and local health department 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.</td>
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<tr>
<td>PUBH 6950</td>
<td>Master's Thesis</td>
<td>1-3 cr.</td>
<td>Dr. P. Barton (Fall, Spring, Summer)</td>
<td>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.</td>
</tr>
<tr>
<td>PUBH 6955</td>
<td>MPH Master's Project</td>
<td>2.0 cr.</td>
<td>Dr. P. Barton (Fall, Spring, Summer)</td>
<td>Restrictions: Consent of the instructor. Final MPH Master's project is completed under this course.</td>
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</tbody>
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