

SCHOOL OF PUBLIC HEALTH- UCD

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)

Applied biostatistical methods including: descriptive and statistical inference; odds ratio and relative risk, probability theory, parameter estimation, tests for comparing statistics of two or more groups, correlation and linear regression and overviews of: multiple and logistic regression.

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 6603 Biostatistics Lab - SAS

1.0 cr.

Dr. D. Lezotte (Spring, Summer, Fall) Prereq: BIOS 6601 or equivalent. Restriction: No credit toward degree if 6603/604/6605 have been taken previously.

This course will emphasize statistical analysis and data interpretation through use of the SAS statistical computing package. Instruction will be provided through laboratory exercises and interactive demonstrations.

BIOS 6604 Biostatistics Lab - SPSS

1.0 cr.

Dr. D. Lezotte (Spring, Summer, Fall) Prereq: BIOS 6601 or equivalent. Restriction: No credit toward degree if 6603/6604/6605 have been taken previously.

This course will emphasize statistical analysis and data interpretation through use of the SPSS statistical computing package. Instruction will be provided through laboratory exercises and interactive demonstrations.

BIOS 6605 Biostatistics Lab - Excel

1.0 cr.

Dr. D. Lezotte (Spring, Summer, Fall) Prereq: BIOS 6601 or equivalent. Restriction: No credit toward degree if 6603/6604/6605 have been taken previously.

This course will emphasize statistical analysis and data interpretation through use of Microsoft Excel. Instruction will be provided through laboratory exercises and interactive demonstrations.

BIOS 6606 Statistics for the Basic Sciences

3.0 cr.

Dr. D. Everett (Fall) 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 6611 Biostatistical Methods I

3.0 cr.

Dr. A. Baron (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. N. Carlson (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 & Dr. N. Carlson (Fall) Prereq: BIOS 6601 and BIOS 6602 or BIOS 6611 and BIOS 6612 or permission of instructor.
 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. D. Glueck (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: BIOS 6631
 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** **2.0 cr.**
 Dr. A. Barón (Spring) 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.
- 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 Coreq: BIOS 6612 and BIOS 6648.
 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 Masters Research Paper** **1.0-6.0 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

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 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 Spec Topics- Biostatistics.

1.0-3.0 cr.

Dr. L. Ogden (Spring, Summer, Fall).

Special interest areas of current biostatistics research and practice are presented and analyzed. The course format is lecture and discussion or seminar. Check the CSPH Website for offerings and topics for this course each semester.

BIOS 6680 SAS Database Design/Mgt

2.0-3.0 cr.

J. Bondy (Fall)

Course introduces students to how SAS can be used to manipulate data and prepare it for analysis: inputting, recoding, reformatting, subsetting, merging data, and simple reports and SAS Macros. Principles and implementation of database design will also be discussed

BIOS 6840 Independent Study for MPH-Biostatistics

1.0-3.0 cr.

Dr. L. Ogden (Spring, Summer, Fall) Restrictions: Open only to MPH students.

Faculty directed independent study for MPH students in topics related to biostatistics.

BIOS 6841 Independent Study for MS-Biostatistics

1.0-3.0 cr.

Dr. G. Grunwald (Spring, Summer, Fall) Course Restrictions: Open only to MS students or Permission of Instructor.

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

BIOS 6950 Masters Thesis-Biostatistics

1.0-6.0 cr.

Dr. G. Grunwald (Spring, Summer, Fall)

Biostatistics Master thesis work is completed under this course.

BIOS 7010 Latent Variable Methods

3.0 cr.

Dr. N. Whitesell - (Fall) Prereq: BIOS 6601, BIOS 6602 or equivalent. Crosslisted: CBHS 7010.

Restriction: Enrollment in the DrPH program or permission of the instructor.

Covers latent variable statistical techniques commonly used in behavioral sciences research – including scale development, factor analysis, and structural equation modeling, and introduces advanced latent modeling techniques. Students will analyze data using statistical software, interpret results and write summaries of findings.

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 7670 Advanced Special Topics - Biostatistics

1.0-3.0 cr.

Dr. S. MaWhinney (Spring, Summer, Fall)

Advanced special interest areas of current biostatistics research and practice are presented. The course format is lecture and discussion or seminar. Check the CSPH Website for offerings and topics for this course each semester.

BIOS 7712 Statistical Methods for Correlated Data

1.0 cr.

Dr. G. Grunwald (Spring) Prereq: BIOS 6643

This course will cover statistical models and methods for serially correlated data, including autoregressive models, Markov models, and Markov Chain Monte Carlo methods.

BIOS 7713 Statistical Methods for Missing Data **2.0 cr.**

Dr. D. Fairclough (Spring) Prereq: BIOS 6643

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 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 Statistics II **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 for PhD-Biostatistics **1.0-4.0 cr.**

Dr. G. Grunwald (Spring, Summer, Fall) Restrictions: PhD student or permission of Instructor.

This course is for the PhD 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 Dissertation **1-10 cr.**

Dr. G. Grunwald (Spring, Summer, Fall)

PhD dissertation work is completed under this course.

COMMUNITY BEHAVIORIAL HEALTH SCIENCES
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CBHS 6610 Social and Behavioral Factors and Health **3.0 cr.**

Dr. L. Crane – (Spring, Summer, Fall)

Considers social, behavioral, and cultural factors that affect the health of individuals and populations, and contribute to health disparities. Development, implementation and evaluation of programs and policies to promote and sustain healthy environments and lifestyles are examined. Online in summer.

CBHS 6611 Foundations Health Behavior **3.0 cr.**

Dr. J. Leiferman – (Spring, Fall) Prereq: CBHS 6610

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-Research and Evaluation **3.0 cr.**

Dr. B. Risendal, Dr. L. Bryant & Dr. L. Crane – (Spring, Fall) Prereq: BIOS 6601

Covers social science research methods, including qualitative/quantitative research designs, data collection and program evaluation (needs assessment, process, outcome), to assess effectiveness of public health programs. (EPID 6630 recommended prior to this course.)

CBHS 6613 Program Planning and Implementation **3.0 cr.**

Dr. E. Belansky & L. Crane – (Spring, Fall) Prereq: CBHS 6610 and CBHS 6611

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) Restrictions: Offered in odd years.

Course examines survey research methodology, including face-to-face, telephone, mail and internet surveys. Includes: methods of data collection; developing and ordering questions; formatting; reliability and validity; sampling; implementation; maximizing response rate; data issues; survey ethics and reporting.

CBHS 6624 Community Health Assessment **3.0 cr.**

J. Baxter & Dr. H. Wolf – (Spring) Prereq: EPID 6630, CBHS 6610

Course teaches how to assess the social, cultural, economic, physical and environmental components of population health. Students use national/local demographic and health data. Includes working with community clients and off-campus community-based fieldwork.

CBHS 6626 Public Health and Aging **2.0 cr.**

Dr. L. Bryant – (Spring) Restrictions: Offered even years.

Introduces 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.

CBHS 6670 Special Topics in Public Health - Community Behavioral Health **1.0-3.0 cr.**

L. Crane – (Spring, Summer, Fall).

Special interest areas of current community and behavioral health research and practice are presented and analyzed. The course format is lecture and discussion or seminar. Check the CSPH Website for offerings and topics for this course each semester.

CBHS 6840 Independent Study- Community Behavioral Health **1.0-3.0 cr.**

Dr. L. Crane - (Fall) Restriction: Permission of instructor required.

Faculty directed independent study in topics related to community and behavioral health.

CBHS 7010 Latent Variable Methods **3.0 cr.**

Dr. N. Whitesell - (Fall) Prereq: BIOS 6601, BIOS 6602 or equivalent. Crosslisted: BIOS 7010.

Restriction: Enrollment in the DrPH program or permission of the instructor.

Covers latent variable statistical techniques commonly used in behavioral sciences research – including scale development, factor analysis, and structural equation modeling, and introduces advanced latent modeling techniques. Students will analyze data using statistical software, interpret results and write summaries of findings.

ENVIRONMENTAL HEALTH AND OCCUPATIONAL HEALTH

EHOH 6614 Occupational and Environmental Health **3.0 cr.**

Drs. J. Litt - (Fall 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 6616 Environmental & Occupational Toxicology **3.0 cr.**

Dr. R. Witter – (Spring) Prereq: Undergraduate Biology & Chemistry Coreq: EHOH 6614; 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 6617 Environmental & Occupational Exposure Assessment **2.0 cr.**

Dr. J. Martyn – (Spring) 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 **3.0 cr.**
Dr. J. Litt – (Spring) Prereq: EHOH 6614
Examine the environmental policy-making and planning and regulatory and onon-regulatory approaches to controlling environmental hazards. A wide variety of topics will be introduced with cross-disciplinary perspectives ranging from water and air to the built environment and climate change.

EHOH 6619 Environmental Exposures & Health Effects **3.0 cr.**
Dr. J. Martany, Dr. C. Rose, G. Plumlee – (Fall) Prereq: EHOH 6614 Coreq: EPID 6630
This course integrates earth sciences, exposure sciences and biological sciences to understand conditions and circumstances of recent env/occ exposure events, the methods to assess exposures; and related health impacts. Case studies and laboratory exercises are used to guide instruction.

EHOH 6621 GIS for Public Health Research & Practice **3.0 cr.**
D. Thomas – (Summer)
This course will expose students to the fundamentals of Health Geographic Information Systems (GIS), including hands-on software experience, across a variety of application areas in the health sciences, particularly focusing on integrating GIS technologies appropriately into research design and practice.

EHOH 6670 Special Topics-Environmental & Occupational Health **1.0-3.0 cr.**
Dr. J. Litt – (Spring, Summer, Fall)
Special interest areas of current environmental and occupational research and practice are presented and analyzed. The course format is lecture and discussion or seminar. Check the CSPH Website for offerings and topics for this course each semester.

EHOH 6840 Independent Study-Environmental & Occupational Health **1.0-3.0 cr.**
Dr. J. Litt – (Spring, Summer, Fall)
Faculty directed independent study in topics related to environmental and occupational health.

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. A. Shupe – (Spring) Restriction: Offered odd years.
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, BIOS 6680, EPID 6630
Principles, concepts and methods for conducting ethical, valid and scientifically correct observational studies in epidemiological research are the focus of this class. Lectures and practical experience reinforce hypothesis formulation, study design, data collection and management, analysis and publication strategies.

EPID 6629 Clinical Epidemiology **2.0 cr.**
Dr. M. Sontag, Dr. J. Hokanson – (Fall) Coreq: EPID 6630 Restriction: Offered even years.
Course provides an overview of the design, conduct, and appraisal of clinical research. Topics include study design, issues in randomized trials, bias, measurement error, assessment of diagnostic and screening tests, measurement of health-outcomes, meta-analysis and use of questionnaires.

EPID 6630 Epidemiology **3.0 cr.**

Dr. D. Dabelea, Dr. R. Hamman – (Spring, Fall)

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 public health literature.

EPID 6631 Analytical Epidemiology

3.0 cr.

Dr. J. Hokanson – (Fall) Prereq: EPID 6630, BIOS 6601 Coreq: BIOS 6602

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 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. J. Lowery - (Fall) Prereq: EPID 6630 Restriction: Offered odd years.

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 - (Summer) Prereq: EPID 6630 or permission of Instructor. Restrictions: Offered even years.

Students will learn the major causes of and risk factors for injuries and violence, identify and use key data sources to characterize injury problems, develop and evaluate injury control and prevention strategies, critically analyze literature and explore injury related research options.

EPID 6638 Cardiovascular Epidemiology

1.0 cr.

Dr. J. Hokanson - (Fall) Prereq: EPID 6630. Restriction: Offered even years.

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 Epidemiology

2.0 cr.

Dr. J. Norris – (Fall) Prereq: EPID 6630, BIOS 6601 Restriction: Offered even years.

This course reviews basic genetic principles and teaches epidemiologic methods employed in the investigation of the genetic susceptibility to chronic disease.

EPID 6646 Introduction to Systematic Reviews

1.0 cr.

Dr. C. DiGuiseppi - (Fall) Prereq: EPID 6630, or permission of instructor. Restriction: Offered odd years

Introduces methods of conducting systematic reviews to identify the best available evidence about health and public health interventions. Topics will include the design and implementation of reviews, publication bias, search strategies, meta-analysis and reporting results through the Cochrane library.

EPID 6670 Special Topics-Epidemiology

1.0-3.0 cr.

Dr. M. Sontag - (Spring, Summer, Fall) Restrictions: Permission of instructor.

Special interest areas of current epidemiology research and practice are presented and analyzed. The course format is lecture and discussion or seminar. Check the CSPH Website for offerings and topics for this course each semester.

EPID 6840 Independent Study- Epidemiology

1.0-3.0 cr.

Dr. M. Sontag - (Spring, Summer, Fall) Restrictions: Permission of Instructor.
Faculty directed independent study in topics related to epidemiology.

EPID 7615 Pharmacoepidemiology

2.0 cr.

Dr. R. Valuck - (Fall) Prereq: EPID 6630: 2 course biostatistics series (BIOS 6601-6602 or BIOS 6611-6612) Restrictions: Offered odd years, NA for 2 credit section.

This course builds upon fundamental concepts and methods of epidemiology, applied to the study of pharmaceuticals. Topics include: the FDA approval process, mechanisms of adverse drug effects, methods and data systems for studying drug-effect relationships, and evaluating published pharmacoepidemiology studies.

EPID 7911 Epidemiologic Field Methods

1.0-4.0 cr.

Dr. D. Dabelea - (Spring, Summer, Fall). Prereq. EPID 6626, EPID 6630, EPID 6631, EPID 6632, BIOS 6611, BIOS 6612. Course Restrictions: Enrollment in Epidemiology PhD Program or permission of Instructor.

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 cr.

Dr. D. Dabelea - (Spring) Prereq: EPID 6626, EPID 6630, EPID 6631, EPID 6632, BIOS 6611, BIOS 6612 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

1.0-4.0 cr.

Dr. D. Dabelea - (Spring, Summer, Fall) Prereq: EPID 6626, EPID 6630, EPID 6631, EPID 6632, BIOS 6611, BIOS 6612. Course Restrictions: Enrollment in Epidemiology PhD Program or Permission of the instructor.

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- Epidemiology

1.0-10.0 cr.

Dr. D. Dabelea - (Spring, Summer, Fall) Restriction: Permission of Instructor.
Doctoral thesis work in Epidemiology

HEALTH SYSTEMS MANAGEMENT AND POLICY

HSMP 6603 Health Systems and Management

3.0 cr.

Dr. A. Atherly - (Fall, Spring, Summer)

Students are introduced to basic components of current health care system and basic economic principles as applied to selected aspects of the health care system.

HSMP 6604 Health Care Economics

3.0 cr.

Dr. D. Milne - (Fall)

This course focuses 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. E. Morrato - (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.**
 S. Miller - (Fall) Prereq: HSMP 6603.
 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.**
 M. Jewel - (Spring)
 This course presents and discusses contemporary public health and health care administration legal issues in the United States.
- HSMP 6608 Ethical & Legal Issues in Public Health** **2.0 cr.**
 Dr. D. Matthew - (Fall)
 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 & Effectiveness in Health** **3.0 cr.**
 Dr. H. Fang - (Spring) Prereq: HSMP 6603 and HSMP 6604 or permission of instructor.
 This is an introductory course on the theory, methods and application of economic evaluation in health context.
- HSMP 6610 Health Care Financial Management** **3.0 cr.**
 R. Lindrooth - (Spring, Fall) Prereq: HSMP 6603, HSMP 6604
 This course provides students with a basic understanding of financial decision making including the time value of money, budgeting and financial management and other topics.
- HSMP 6611 Strategic Management in Health Care** **2.0 cr.**
 Dr. R. Wolfson - (Fall) Prereq: HSMP 6603
 In this course students learn the principles of competition, strategic analysis and strategic management, within the context of the healthcare industry.
- HSMP 6615 Global Health Policy and Economy** **3.0 cr.**
 Dr. S. Rifkin - (Summer)
 Students should be able to identify the major actors in global health policy and their roles; discuss the major policy issues and their importance in shaping global health' and apply the above analysis to specific examples.
- HSMP 6617 Introduction to Health Services Research** **3.0 cr.**
 Dr. A. Atherly - (Spring) Prereq: BIOS 6601
 Course provides an overview of the discipline of health services research (HSR).
- HSMP 6625 Methods in Health Services Research** **3.0 cr.**
 R. Lindrooth - (Fall) Prereq: HSMP 6617
 This course provides an overview of research methods in health services. This class is designed for individuals who have completed the HSMP 6617.
- HSMP 6670 Special Topics-Health Systems, Management, Policy** **1.0-3.0 cr.**
 Dr. A. Atherly - (Spring, Summer, Fall)
 Special interest areas of current health systems, management, and policy research and practice are presented and analyzed. The course format is lecture and discussion or seminar. Check the CSPH Website for offerings and topics for this course each semester.
- HSMP 6840 Independent Study-Health Systems, Management, Policy** **1.0-3.0 cr.**
 Dr. A. Atherly - (Spring, Summer, Fall)
 Faculty directed independent study in topics related to health systems, management and policy.

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 provides a broad overview 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 of today must function.

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. Restrictions: Only open to MPH students.

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 Public Health in the Global Community**3.0 cr.**

K. Kennedy - (Summer, Spring) Restriction: Permission of the instructor required for non-degree/non-certificate students.

This course is a study of population health issues around the world. It enables students to (1) assess the current health status of a country and (2) understand and critically appraise the magnitude and likely causes of various health-related conditions.

PUBH 6620 Geographic Perspective on Global Hlth**1.0 cr.**

D. Thomas - (Summer) Restriction: Permission of the instructor required for non-degree/non-certificate students.

This course will review geographic concepts and tools taking a regional, holistic approach to understanding the world's peoples, places and processes in order to lay a foundation for an improved knowledge of global health.

PUBH 6624 Nutrition in Global Community**2.0 cr.**

S. Johnson & N. Krebs - (Fall) Restriction: Permission of the instructor required for non-degree/non-certificate students.

Course provides information and opportunities for discussion regarding fundamentals of nutrition and historical and present-day issues related to global nutrition. Agencies that address nutrition issues domestically and globally, including philosophies, missions and strategies employed by these will be presented.

PUBH 6626 International Travel and Health**1.0 cr.**

Dr. C. Wilson - (Spring, Fall) Restriction: Permission of the instructor required for non-degree/non-certificate students.

This course addresses personal and public health issues and risks characteristic of international travel. Topics include pre-travel preparation; common health risks of travel; preventive health, safety and security measures; emergency management of common health problems; and management of group health.

PUBH 6651 MPH Research Paper**1.0-4.0 cr.**

Dr. J. Barnette - (Spring, Summer, Fall) Prereq: BIOS 6601, CBHS 6610, EHOH 6614, HSMP 6603, EPID 6630, PUBH 6600 OR permission of Instructor..

Independent research project resulting in a publishable paper. All projects will involve the analysis of primary or secondary data.

PUBH 6670 Special Topics-Public Health **1.0-3.0cr.**

Dr. J. Barnette - (Spring, Summer, Fall)

Special interest areas of current public health research and practice are presented and analyzed. The course format is lecture and discussion or seminar. Check the CSPH Website for offerings and topics for this course each semester.

PUBH 6840 Independent Study-Public Health **1.0-3.0cr.**

Dr. J. Barnette - (Spring, Summer, Fall)

Faculty directed independent study in topics related to public health.

PUBH 6955 MPH Capstone Project **1.0-2.0cr.**

Dr. J. Barnette - (Spring, Summer, Fall) Prereq: BIOS 6601, CBHS 6610, EHOH 6614, EPID 6630, HSMP 6603, or permission of Instructor.

Final MPH Capstone project is completed under this course.

SCHOOL OF PUBLIC HEALTH- UNC

COMMUNITY HEALTH

CHBH 5000 Stress Management **3.0 cr.**

D. Givray - (Spring, Summer, Fall)

A holistic approach to stress management, with cognitive and theoretical knowledge

CHBH 5050 Health Communication and the Media **3.0 cr.**

D. Givray - (Spring, Summer, Fall)

Focuses on the design, production, evaluation and acquisition of appropriate media and materials for health education/promotion programs.

CHBH 5090 Seminar in Health Behavior **3.0 cr.**

D. Givray - (Fall)

Review theories of behavior and behavior change as they relate to current health issues. Health behavior change models will be examined and applied.

CHBH 5100 International Health: Cross Cultural Comparisons **3.0 cr.**

D. Givray - (Spring, Summer, Fall)

This class explores the multi-cultural aspects of health and international comparisons of various health indicators. Students will examine specific health problems, and the nature of health care delivery worldwide.

CHBH 5300 Seminars in Health Promotion Strategies **3.0 cr.**

D. Givray - (Spring) Prereq: CHBH 5090 or consent of instructor.

Examines the effectiveness of a wide range of strategies used in health promotion/disease prevention programs. Current literature/programs are presented and reviewed.

CHBH 5400 Principles of Health Program Management **3.0 cr.**

D. Givray - (Fall)

Prepares students to assume a supervisory role in the management of health and human services programs. Course covers planning, decision-making, organization, budgeting, marketing, human resource management, leadership.

CHBH 5500 Environmental Health **3.0 cr.**

D. Givray - (Spring)

Investigate and discuss the relationships of environmental health problems to human health and welfare. Include sources of these problems, their recognition and control and current research studies.

CHBH 6100 Program Planning and Evaluation

3.0 cr.

D. Givray - (Fall) Prereq: CHBH 5300 or consent of instructor.

Theories and practices of program planning and evaluation including needs assessment, planning approaches, selection of strategies, data collection and analysis, evaluation design, program implementation and utilization of evaluation data.

CHBH 6200 UNC Epidemiology

3.0 cr.

D. Givray - (Fall) Prereq: SRMS 6170.

Epidemiological principles analyzed with an emphasis on selected topical issues, infectious and chronic/degenerative diseases, research design and analysis. Practical applications of statistical and epidemiological methods.

CHBH 6250 Public Health Administration and Policy

3.0 cr.

D. Givray - (Spring)

Analyze the organization and administration of public health agencies at national, state and local levels. Major public health problems, including administrative and policy decisions regarding their resolution will be included.

CHBH 6860 MPH Masters Project

2.0 cr.

D. Givray - (Spring, Summer, Fall) Prerequisites: CHBH 6930 or concurrent. Restrictions: Consent of Instructor.

Independent project in which student demonstrates public health competencies. Includes public presentation of project.

CHBH 6920 Graduate Internship

3.0 cr.–6.0

E. Gilbert - (Spring, Summer, Fall) Prerequisites: CHBH 6100. Restrictions: Consent of Instructor.

Supervised experience at a health agency, that allows the student to put into practice knowledge and skills learned in the classroom.

CHBH 6930 UNC MPH Practicum

2.0 cr.

D. Givray - (Spring, Summer, Fall) Prerequisites: PUBH 6600 Restrictions: Minimum 18 core courses and consent of instructor.

MPH students must successfully demonstrate competencies and integrate knowledge. Through this practicum, theory and skills will be applied in a public health setting.

CHBH 6990 UNC Thesis

1.0 cr.–6.0

E. Gilbert - (Spring, Summer, Fall) Restrictions: Consent of Instructor.

Optional supervised research project for Master of Public Health candidates in Health Education. Content to be jointly determined by student and sponsoring professor.

GERONTOLOGY

GERO 5550 Grant Development and Administration

3.0 cr.

D. Givray - (Spring)

Overview of proposal planning and grant development process. Application of skills in identifying funding options, program planning, proposal writing, budgeting and establishing controls for grant administration.

HUMAN REHABILITATIVE SERVICES

HRSS 6100 Interpretation and Evaluation of Behavioral Research

3.0 cr.

D. Givray - (Spring, Fall)

Understanding of applications of appropriate statistical techniques and necessary skills for interpretation and evaluation of research in human services. Emphasizes basic concepts, design and utilization of behavioral research

STATISTICS AND RESEARCH METHODS

SRMS 6000 Introduction to Graduate Research

3.0 cr.

D. Givray - (Spring, Summer, Fall)

Principles of research, design and analysis. Read and critique published research. Required of all first year graduate students except in those departments with substitutes. Taught every semester.

SRMS 6170 Biostatistics and Health Data Analysis

3.0 cr.

D. Givray - (Summer)

Students will gain an understanding of biostatistical methods. This course enables students to develop the skills and knowledge necessary to manage and analyze health care and biomedical data.

SCHOOL OF PUBLIC HEALTH- CSU

AGRICULTURE

AGRI 5000 Adv Issues in Agriculture

3.0 cr.

L. Stallones - (Fall)

Scientific, technical, cultural and social issues facing agriculture, and their interrelationships.

AGRI 5460 Principles of Coop Extension

3.0 cr.

L. Stallones - (Spring, Summer, Fall)

Traditional and contemporary delivery systems of Cooperative Extension emphasizing structures of non-formal education

AGRI 6340 Animal Production Systems

3.0 cr.

L. Stallones - (Spring, Fall)

Developing animal management systems for a variety of animal species in a forage-based environment.

AGRI 6370 Und Policy & Emerging Issues

3.0 cr.

L. Stallones - (Spring, Fall)

Origination, purpose and effects of policy on land-based enterprises; policy effects on management decisions.

ANIMAL SCIENCES

ANEQ 5480 Issues in Manure Management

1.0 cr.

L. Stallones - (Fall) Prereq: CHEM 100

Manure management practices maximizing benefits to soils and crops while minimizing hazards to air and water quality and complying with regulation.

ANEQ 6600 Topics in Meat Safety

1.0 cr.

L. Stallones - (Fall)

Topics of current concern in meat safety.

ANTHROPOLOGY

ANTP 5710 Anthropology and Global Health

3.0 cr.

L. Stallones - (Fall)

Global health concerns and problems including poverty, urbanization, malnutrition, diet, war and refugees, climate, and environment.

EDUCATION RESEARCH METHODS

EDRM 7010 Applied Linear Models

3.0 cr.

L. Stallones - (Spring) Prereq: EDRM 606

General Linear model applications in educational research emphasizing conceptual understanding and characteristics of non-experimental designs

EDRM 7030 Application of Longitudinal Data Analysis **3.0 cr.**

L. Stallones - (Fall)

Methods and empirical applications of individual growth modeling and discrete-time event history analysis in educational research.

ENVIRONMENTAL AND RADIOLOGICAL HEALTH SCIENCES

ERHS 5020 Fundamentals of Toxicology **3.0 cr.**

L. Stallones - (Fall)

Fundamental principles of toxicology; dose-response, organ targets, toxic agents.

ERHS 5200 Environmental and Occupational Health **3.0 cr.**

L. Stallones - (Fall)

Issues in environmental and occupational health sciences in the context of public health and regulatory concerns.

ERHS 5260 Industrial Hygiene **3.0 cr.**

L. Stallones - (Fall) Prereq: CHEM 245 or CHEM 341 or CHEM 345; ERHS 520 or concurrent registration; PH 110 or PH 121

Theory and application of industrial hygiene principles to management of the occupational environment.

ERHS 5270 Industrial Hygiene Laboratory **1.0 cr.**

L. Stallones - (Fall)

Industrial hygiene field monitoring equipment and techniques.

ERHS 5300 Radiology Physics and Dosimetry I **3.0 cr.**

L. Stallones - (Fall) Prereq: MATH 155 or MATH 160; PH 122

Theory and detection of ionizing radiation; measurement and calculation of exposure and dose.

ERHS 5320 Epidemiologic Methods **3.0 cr.**

L. Stallones - (Fall) Prereq: STAT 307

Method of epidemiologic investigation and study design. Applications to disease control with literature examples.

ERHS 5400 Principles of Ergonomics **3.0 cr.**

L. Stallones - (Fall)

Theory and practice of ergonomics.

ERHS 5420 Biostatistics for Qual Data **3.0 cr.**

L. Stallones - (Fall) Prereq: STAT 301 or STAT 307

Statistical analysis of categorical data obtained in epidemiology, toxicology, occupational health, and clinical settings.

ERHS 5610 Radiation in Public Health **2.0 cr.**

L. Stallones - (Spring, Fall) Prereq: ERHS 3000 or ERHS 530

Dose-response relationships; physical, chemical, and biological modification of radiation damage; radiation oncology; radiation genetics and oncogenesis.

ERHS 6560 Occupational Noise Control **3.0 cr.**

L. Stallones - (Fall) Prereq: ERHS 5270

Measurement and control of industrial or environmental noise emphasizing practical solutions.

ERHS 6930 Research Seminar – Epidemiology **1.0 cr.**

L. Stallones - (Spring, Fall)

Presentation of student research and discussion of publications from scientific literature.

ERHS 6931 Research Seminar – Industrial Hygiene **1.0 cr.**

L. Stallones - (Spring, Fall)

Presentation of student research and discussion of publications from scientific literature.

ERHS 6932 Research Seminar – Toxicology **1.0 cr.**

L. Stallones - (Spring, Fall)

Presentation of student research and discussion of publications from scientific literature.

ERHS 6933 Research Seminar – Health Physics **1.0 cr.**

L. Stallones - (Spring, Fall)

Presentation of student research and discussion of publications from scientific literature.

ERHS 6950 Independent Study – Epidemiology **1.0-5.0 cr.**

L. Stallones - (Spring, Summer, Fall)

Specialized study in epidemiology under supervision of faculty.

ERHS 6951 Independent Study – Environmental. Occupational Health **1.0-5.0 cr.**

L. Stallones - (Spring, Summer, Fall)

Specialized study in environmental and occupational health under supervision of faculty.

ERHS 6980 MPH Capstone Project **1.0-6.0 cr.**

L. Stallones - (Spring, Summer, Fall)

Capstone project for Master of Public Health students.

ERHS 7260 Aerosols and Occupational Health **3.0 cr.**

L. Stallones - (Fall) Prereq: PH 141

Properties and behavior of industrial aerosols, emphasizing measurement and control of dust related to disease.

ETHNIC STUDIES

ETHS Independent Study-Ethnic Studies **1.0-18.0 cr.**

L. Stallones - (Spring, Summer, Fall)

Independent study in ethnic studies.

FOOD SCIENCE AND HUMAN

FSHN 5000 Food System/Nutrition/Food Security **2.0 cr.**

L. Stallones - (Fall) Prereq: FSHN 350

Global and local food systems and their potential influence on nutrition and food security.

FSHN 5200 Advanced Medical Nutrition Therapy **3.0 cr.**

L. Stallones - (Summer) Prereq: FSHN 5500 or 5510

Role of nutrition in etiology and treatment of selected disorders.

FSHN 5250 Nutrition Education, Theory and Practice **2.0 cr.**

L. Stallones - (Fall) Prereq: FSHN 350. Restriction: Instructor permission if not in Public Nutrition focus area.

Examination of current theories, skills, and models used in nutrition education programs as preparation for research and practice.

FSHN 5510 Advanced Nutritional Science II **3.0 cr.**

L. Stallones - (Fall) Prereq: BC 351 or BC 403; FSHN 350. Restriction: Instructor permission if not in Public Nutrition focus area.

Carbohydrate, lipid, energy metabolism; human studies, animal models.

FSHN 6400 Selected Topics in Nutritional Epidemiology **2.0 cr.**
L. Stallones - (Fall) Prereq: FSHN 350; STAT 301 or STAT 307/ERHS 307.
Overview of topics in nutritional epidemiology; study design, interpretation of findings, linkage of data to action.

FSHN 6501 Human Nutrition-Carbohydrates/Lipids/Energy **2.0 cr.**
L. Stallones - (Fall) Prereq: FSHN 350 Restriction: Instructor permission if not in Public Nutrition focus area.
Appraisal of literature on human nutritional status.

FSHN 6610 International Nutrition **2.0 cr.**
L. Stallones - (Fall) Prereq: FSHN 350 Restriction: Instructor permission if not in Public Nutrition focus area.
Roles of technological programs and international agencies in meeting nutritional needs.

FSHN 6950 Independent Study – Food Science **1.0-18.0 cr.**
L. Stallones - (Spring, Summer, Fall) Restrictions: Instructor permission if not in Public Health Nutrition focus area.
Specialized study in food science under supervision of Faculty.

FSHN 6951 Independent Study – Nutrition **1.0-18.0 cr.**
L. Stallones - (Spring, Summer, Fall) Restrictions: Instructor permission if not in Public Health Nutrition focus area.
Specialized study in food science under supervision of Faculty.

HUMAN DEVELOPMENT AND FAMILY STUDIES

HDFS 5920 Grant Writing-Human Services **3.0 cr.**
L. Stallones - (Fall) Prereq: STAT 201
Writing grant proposals that support client services or for research.

HEALTH AND EXERCISE SCIENCE

HESC 5560 Wellness & Health Promotion **3.0 cr.**
L. Stallones - (Fall)
Discussion of theory and application of health promotion in various settings.

HESC 6000 Data Analysis & Research Design **3.0 cr.**
L. Stallones - (Fall) Prereq: One course in statistics. Restriction: Instructor permission if not in Health and Exercise Science focus area.
Methods of research applied to health and exercise science including quantitative techniques of analysis and research design.

HESC 6100 Exercise Bioenergetics **3.0 cr.**
L. Stallones - (Fall) Prereq: BC 351 or FSHN 350; HES 403. Restriction: Instructor permission if not in Health and Exercise Science focus area.
Biology of energy transfer reactions related to human locomotion and exercise performance in both healthy individuals and disease states.

HESC 6030 Advanced Topics in Exercise Physiology **3.0 cr.**
L. Stallones - (Fall) Restriction: Instructor permission if not in Health and Exercise Science focus area.
Advanced principles of theoretical and applied exercise physiology at molecular, cellular and systemic levels.

HESC 6560 Comprehensive Stress Management **3.0 cr.**
L. Stallones - (Spring, Summer, Fall)
Relationship between stress and illness emphasizing methods to impact its detrimental effects.

HESC 6861 Practicum in Wellness Management **1.0-3.0 cr.**

L. Stallones - (Spring, Summer, Fall)
Practicum requirement for Health and Exercise Science students.

HESC 6920 Seminar-Health/Exercise Science **1.0 cr.**

L. Stallones - (Spring, Fall) Restriction: Instructor permission if not in Health and Exercise Science focus area.
Consideration of graduate education in health and exercise science.

HESC 6950 Independent Study - Health **1.0-18.0cr.**

L. Stallones - (Spring, Summer, Fall) Restriction: Instructor permission if not in Health and Exercise Science focus area.
Independent study in health.

HESC 6951 Independent Study – Exercise Science **1.0-18.0cr.**

L. Stallones - (Spring, Summer, Fall) Restriction: Instructor permission if not in Health and Exercise Science focus area.
Independent study in exercise science.

HESC 6961 Group Study – Health **1.0-18.0cr.**

L. Stallones - (Spring, Summer, Fall) Restriction: Instructor permission if not in Health and Exercise Science focus area.
Group study in health.

HESC 7100 Exercise in Disease Prevention **3.0 cr.**

L. Stallones - (Fall) Prereq: HES 403; HES 520 Restriction: Instructor permission if not in Health and Exercise Science focus area.
Biology of energy transfer reactions related to human locomotion and exercise performance in both healthy individuals and disease states.

INTERNATIONAL EDUCATION

IE00 6920 International Development Seminar **3.0 cr.**

L. Stallones - (Fall)
Exploration of contemporary issues in international development from interdisciplinary perspectives.

JOURNALISM AND TECHNICAL COMMUNICATION

JTCM 5000 Communication Research & Evaluation Methods **4.0 cr.**

L. Stallones - (Fall)
Theory and applied communication research and evaluation methodologies for assessing and improving communication in technological environments.

JTCM 5010 Processes & Effects of Communication **4.0 cr.**

L. Stallones - (Fall) Prereq: JTCM 5000
Examination of communication theory including communicator credibility, messages, channels, audiences and information, behavior and attitude change.

JTCM 6140 Public Communication Campaigns **3.0 cr.**

L. Stallones - (Fall) Prereq: JTCM 5010
Conceptual, methodological issues and decisions underpinning determination of communication campaign effects, planning, implementation and evaluation.

JTCM 6300 Health Communication **3.0 cr.**

L. Stallones - (Fall) Prereq: JTCM 5010

Role of health communication in public health programs and campaigns.

JTCM 6600 Communication/Technology Transfer **3.0 cr.**

L. Stallones - (Fall) Prereq: JTCM 5010

Communication's role in technology transfer as related to nature, process, and effects of technology transfer, knowledge dissemination, and utilization.

JTCM 6610 Information Design **3.0 cr.**

L. Stallones - (Fall) Prereq: JTCM 5010

Theoretical and empirical review of creation, presentation storage, and distribution of information.

JTCM 6950 Independent Study – Communication **1.0-3.0cr.**

L. Stallones - (Spring, Summer, Fall)

Independent study in Journalism and Technical Communication.

MICROBIOLOGY IMMUNOLOGY AND PATHOLOGY

MIPO 5550 Principles & Mechanism of Disease **3.0 cr.**

L. Stallones - (Fall) Prereq: BMS 300; coursework in histology, physiology and anatomy. Restriction: Permission of instructor needed if prerequisites not met.

Principles of disease processes; emphasis on reactivity of the diseased cell, tissue, organ or organism.

NATURAL RESOURCES

NROO 5120 Spatial Statistical Modeling-Natural Resources **3.0 cr.**

L. Stallones - (Fall) Prereq: NR 322; NR323; STAT 301

Statistical techniques used to model natural and environmental resources; GIS, remote sensing, and spatial statistics.

PSYCHOLOGY

PSCY 5161 Public Health Practice – History **1.0**

L. Stallones - (Fall)

Understanding of the history and breadth of public health and the structure and process of public health practice.

PSCY 5163 Public Health Practice – Oversight **1.0-8.0cr.**

L. Stallones - (Spring, Summer, Fall)

Concurrent course with CSU public health practicum.

PSCY 6860 Public Health Practicum **1.0-8.0cr.**

L. Stallones - (Spring, Summer, Fall)

Required CSU public health practicum.

COMMUNICATION

SPCM 5390 Communication Theory **3.0 cr.**

L. Stallones - (Fall)

Examination of communication philosophies and perspectives; analysis of modern theories of face-to-face communication.

STATISTICS

STAS 5110 Design/Data Analysis Rsrch I **4.0 cr.**

L. Stallones - (Fall) Prereq: STAT 301 or STAT 307 or STAT 311 or STAT 315.

Statistical methods for experimenters and researchers emphasizing design and analysis of experiments.

STAS 5200 Intro to Probability Theory

4.0 cr.

L. Stallones - (Fall) Prereq: MATH 229; MATH 261; MATH 317

Probability, random variables, distributions, expectations, generating functions, limit theorems, convergence, random processes.

STAS 5400 Data Analysis & Regression

3.0 cr.

L. Stallones - (Fall)

Probability, random variables, distributions, expectations, generating functions, limit theorems, convergence, random processes. Prerequisite of six upper division statistics courses.

CLINICAL SCIENCES

VSCS 7950 Ind Study – Epidemiology

1.0-5.0crs.

L. Stallones - (Spring, Summer, Fall)

Specialized study in epidemiology under supervision of faculty.

VSCS 7960 Group Study – Medicine

1.0-18.0crs.

L. Stallones - (Spring, Summer, Fall)

Group study – contact department for topics in a given semester.