

# JOHNS HOPKINS BLOOMBERG SCHOOL OF PUBLIC HEALTH

2nd TERM 2009-10

East Baltimore - Distance Education

## SCHEDULE INFORMATION

This schedule includes all courses expected to be offered by the Johns Hopkins Bloomberg School of Public Health during the 2nd term of academic year 2009-10. The listing is based on data supplied by the academic departments and approved by the subcommittee of the Committee on Academic Standards as of June 15, 2009. Courses are listed in numerical order within departments. The second three digits represent the department or division. The three digits to the right of the period represent the course number.

## COURSE INFORMATION

Included in the listing for each course are class meeting dates, times, instructor, and prerequisites. Classes designated as TBA will have times arranged at a later date by the department offering the course; students must check with the department for this information. Classroom assignments will be made available immediately prior to the beginning of the term. The most recent course descriptions are included at the following website:

Visit the JHSPH Course Search site for current course information:  
<http://commprojects.jhsph.edu/courses/>

You can access links to comprehensive course information: [http://www.jhsph.edu/student\\_affairs/registrar/](http://www.jhsph.edu/student_affairs/registrar/)

## REGISTRATION INFORMATION

Continuing students may register for 2nd term through **October 13, 2009** by logging on to ISIS Self Services at <https://isis.jhu.edu/sswf>. To register via the web, students must use their JHED LID (logon user ID) and password for authentication. **2nd term tuition payments are due via the web (<https://isis.jhu.edu/sswf>) by Friday, November 20, 2009.** Changes to 2nd term registration may be processed via the web during the published Add/Drop period for 2nd term: **Monday, October 26 – Friday, November 6, 2009.** Special Students Limited and School of Medicine Post Doctoral Fellows may not register via the web; they must register in person, prior to the October 13<sup>th</sup> deadline. Special Students Limited must submit all registration materials (registration/student data form, instructor's permission and payment information) to the Business Office (W1101). SOM Post Docs must complete the paper registration form in E1002 (SOM Post Docs must adhere to all course restrictions and required permissions).

Tuition is assessed at a rate of **\$815** per credit unit. Students **receive a 100% tuition refund for any withdrawals made prior to the end of the Add/Drop period; however, there is no tuition refund after the Add/Drop period.** A fee of \$100 will be assessed for registering after the October 13th deadline and a fee of \$50 will be assessed for making changes after the Add/Drop deadline for each academic term. No changes will be accepted during the last two weeks of a term.

## REQUIRED APPROVALS

All students in the School (with the exception of Special Students Limited and SOM Post Docs) are expected to have their registration selections approved by their academic advisors. **It is the student's responsibility to have his/her registration, including grading options and registration changes, reviewed and approved by an advisor. Additionally, if a course is noted as requiring instructor's consent, it is the student's responsibility to obtain such consent. This consent may be obtained in person or by e-mail and it is in the student's best interest to maintain documentation of such approvals. Additionally, all special studies (.800 series) and all courses taken for audit must have the instructor's consent.** All Special Students Limited must have each of their course registrations signed by the instructor or submit e-mail approvals with their registrations.

## **COURSE LISTING CODES**

Course listings consist of the following: a three character department code—the second two characters identify the department in which the course is offered, the third character may be used to indicate a division or cluster within the department. Refer to the list below for department/division codes.

## **DEPARTMENT/DIVISION CODES**

- 120. Biochemistry and Molecular Biology  
    Division of Reproductive Biology
- 140. Biostatistics
- 180. Environmental Health Sciences
- 182. Environmental Health Engineering
  - 183. Physiology
  - 186. Radiation Health Sciences
  - 187. Toxicological Sciences
  - 188. Occupational and Environmental Health
- 220. International Health
- 260. Molecular Microbiology and Immunology
- 300. Health Policy and Management
- 330. Mental Health
- 340. Epidemiology
- 380. Population and Family Health Sciences
- 390. Clinical Investigation
- 410. Health Behavior and Society
- 550. Adjunct Studies

A course number—the three character course number will be used to indicate the level, format, and the sequence of the course. Since the School of Public Health is a graduate division, courses will be numbered within the following range.

- A. 600-699: Formal Courses normally offered in the second year of graduate study.
- B. 700-799: Formal Courses normally offered in the second or last year of graduate study.
- C. 800-899: Repeatable courses offered in a variety of informal (i.e., non-lecture) formats that can be distinguished by the following sub designations:
  - 810 series Field Placement
  - 820 series Thesis Research (master's and doctoral)
  - 830 series Postdoctoral Research
  - 840 series Special Studies and Research
  - 850 series Laboratory rotation courses
  - 860 series Informal seminars (e.g., journal or research clubs) that vary in content each quarter of each year and address current topics

## **Examples**

- 182.820 Thesis Research in Environmental Health Engineering
- 340.840 Special Studies and Research Epidemiology
- 260.851 Laboratory Rotations
- 187.861 Toxicological Sciences Seminar

## **INTERDIVISIONAL CODES**

Some School of Public Health courses may have prerequisites from other divisions of the University. Also, other divisions may jointly offer courses with the School of Public Health. To denote courses offered by other University divisions, the following system is used:

- AS School of Arts and Sciences (SAS)
- EN School of Engineering
- ME School of Medicine (SOM)
- NR School of Nursing (SON)
- BU Business Carey School
- ED Education

(Example: ME 330.702 denotes a School of Medicine course, in the Department of Pharmacology and Molecular Sciences)

# SECOND TERM COURSE SCHEDULE 2009-2010 AUGUST 27 - OCTOBER 21, 2009

Please check extradepartmental listing for courses in individual departments.

## Biochemistry and Molecular Biology

- 120.601.01 BIOCHEMISTRY -- AN INTRODUCTORY COURSE II**  
(5 units)  
Bryant, Randy  
Examines the enzymatic basis for the major metabolic transformations that are essential for cell growth and maintenance. Surveys in detail the principal routes for generation of energy in eukaryotic cells and tissues.  
Email: fbryant@jhsph.edu  
Lecture: M W F 10:30 - 11:50  
**Consent of instructor required**  
**Prerequisite:** 120.600
- 120.603.01 MOLECULAR BIOLOGY OF DISEASE**  
(3 units)  
Wright, William  
Explores how molecular biology has been used to define the biological basis of a public health catastrophe, the 1918 Spanish Influenza Pandemic, and to identify specific changes in the genome of current strains of H5N1 avian influenza that, if they occurred, would increase the probability of another serious human influenza pandemic. Topics include the methods used to recover the genome of the extinct 1918 Spanish flu virus, the generation of recombinant virus, polymerase chain reaction, DNA sequencing, site directed mutagenesis, oligonucleotide array analysis, design and evaluation of anti-viral therapies and ethical dilemmas inherent in the management of a serious influenza pandemic.  
Email: bwright@jhmi.edu  
Lecture: T Th 2:00 - 2:50
- 120.800.01 MPH CAPSTONE: BIOCHEMISTRY AND MOLECULAR BIOLOGY**  
(2 units)  
Departmental Faculty  
The MPH Capstone is an opportunity for students to work on public health practice projects that are of particular interest to them. The goal is for students to apply the skills and competencies they have acquired to a public health problem that simulates a professional practice experience.  
**Pass/fail only**  
**Consent of instructor required**  
Consent from the Capstone Supervisor is Required  
**Prerequisite:** All other MPH core requirements must be taken before or concurrently with the Capstone project.  
Registration for this 2-credit course is required during the term that an MPH student completes the capstone project (e.g., 4th term for a full-time MPH student).
- 120.820.01 THESIS RESEARCH BIOCHEMISTRY**
- 120.830.01 POSTDOCTORAL RESEARCH BIOCHEMISTRY**
- 120.840.01 SPECIAL STUDIES AND RESEARCH BIOCHEMISTRY**

- 120.850.01 BIOCHEMICAL TECHNIQUES**  
(6 units)  
Departmental Faculty  
All departmental students spend seven weeks participating in the research activities of a faculty member's laboratory. During the academic year each student rotates through five laboratories.  
Lecture: TBA  
**Pass/fail only**
- 120.852.01 CORE RESEARCH LITERATURE**  
(variable units)  
Hardwick, J.-Marie and Bryant, Randy  
Provides a complement to the BCMB core curriculum. Student reads research papers relating to a core lecture topic. Discussions are led by a student while a faculty member from Biochemistry or MMI act as facilitator. Helps students to develop skills in reading the primary literature and provides an introduction to the experimental paradigms underlying the concepts presented in the core course.  
Email: pbazemor@jhsph.edu  
Lecture: T 1:30 - 2:50  
**Consent of instructor required**  
Jointly offered with MMI  
Requirement for students in the Departments of Biochemistry & Molecular Biology, and Molecular Microbiology & Immunology enrolled in core curriculum
- 120.862.01 SPECIAL TOPICS IN BIOCHEMISTRY: POLYMERASE STRUCTURE AND FUNCTION**  
(1 unit)  
Bailey, Scott  
Examines current understanding of polymerase mechanisms, with particular emphasis on structural/function data. Compares the common themes and differences between polymerase involved in transcription, replication and repair.  
Email: scbailey@jhsph.edu  
Lecture: TBA  
Enrollment minimum of 4  
Enrollment maximum of 10  
**Consent of instructor required**  
Students must obtain consent from Dr. Bailey to register for this course.
- 120.895.01 MPH PRACTICUM: BIOCHEMISTRY AND MOLECULAR BIOLOGY**  
(variable units)  
Departmental Faculty  
The MPH Practicum is a mentored, hands-on practical public health experience, which involves meaningful participation and interaction with public health professionals.  
**Pass/fail only**  
**Consent of instructor required**  
Student must receive faculty advisor approval

## Biostatistics

**140.612.01 STATISTICAL REASONING IN PUBLIC HEALTH II**  
(3 units)  
McGready, John  
Provides a broad overview of biostatistical methods and concepts used in the public health sciences, emphasizing interpretation and concepts rather than calculations or mathematical details. Develops ability to read the scientific literature to critically evaluate study designs and methods of data analysis. Introduces basic concepts of statistical inference, including hypothesis testing, p-values, and confidence intervals. Topics include comparisons of means and proportions; the normal distribution; regression and correlation; confounding; concepts of study design, including randomization, sample size, and power considerations; logistic regression; and an overview of some methods in survival analysis. Draws examples of the use and abuse of statistical methods from the current biomedical literature.  
Email: [jmcgread@jhsph.edu](mailto:jmcgread@jhsph.edu)  
Lecture: T Th 10:30 - 11:50  
Limited to degree candidates in SHPH and students in the joint MSN/MPH program  
**Consent of instructor required**  
Consent required for non-PH students.  
**Prerequisite:** 140.611  
Course materials fee is \$30.00

**140.622.01 STATISTICAL METHODS IN PUBLIC HEALTH II**  
(4 units)  
Diener-West, Marie and Bandeen-Roche, Karen  
Presents use of likelihood functions, confidence intervals, and hypothesis tests to draw scientific inferences from public health data. Discusses null and alternative hypotheses, Type I and II errors, and power. Develops parametric and non-parametric statistical methods for comparing multiple groups (ANOVA). Also introduces measures of association and simple linear regression. Addresses methods for planning a study, including stratification, balance, sampling strategies, and sample size.  
Lecture: T Th 10:30 - 11:50  
Lab: M T W Th F 1:30 - 3:00 or M T W Th F 3:30 - 5:00  
For MPH and "special students" only.  
**Consent of instructor required**  
Consent required for non-PH students  
**Prerequisite:** 140.621  
One 90-minute lab per week, lab is 140.922. As soon as you register for the course, please also register for one section of 140.922. Course Materials Fee is \$40.00.

**140.622.02 STATISTICAL METHODS IN PUBLIC HEALTH II**  
(4 units)  
Bandeen-Roche, Karen and Diener-West, Marie  
Presents use of likelihood functions, confidence intervals, and hypothesis tests to draw scientific inferences from public health data. Discusses null and alternative hypotheses, Type I and II errors, and power. Develops parametric and non-parametric statistical methods for comparing multiple groups (ANOVA). Also introduces measures of association and simple linear regression. Addresses methods for planning a study, including stratification, balance, sampling strategies, and sample size.  
Lecture: T Th 10:30 - 11:50  
Lab: M T W Th F 1:30 - 3:00 or M T W Th F 3:30 - 5:00  
For PhD, ScM and MHS degree candidates.  
**Consent of instructor required**  
Consent required for non-PH students  
**Prerequisite:** 140.621  
One 90-minute lab per week, lab is 140.922. As soon as you register for the course, please also register for one section of 140.922. Course Materials Fee is \$40.00.

**140.637.01 BIOLOGICAL DATABASES AND DISTRIBUTED COMPUTING**  
(3 units)  
Pineda, Fernando  
Provides students with the principles and skills required to implement biological databases and their web-based interfaces. Presents essential notions of distributed computing on the worldwide web. Includes the fundamentals of TCP/IP, client-server model, http protocol, server-side and client-side scripting with CGI and PHP and Javascript. Presents the principles of biological database design using relational and object-oriented database models and management systems (e.g. MySQL and Zope). Topics include SQL, database design, normalization, optimization and ER modeling. Discusses biological database interoperability, with e.g. XML, XML schema, and ontologies (i.e. GO). Guest lectures provide insights into significant biological database projects such as the Human Protein Reference Database (HPRD) and DRAGON. As a final project, students develop and publish a database-driven web-based application for a biological application.  
Lecture: M W F 1:30 - 2:50  
Lab: F 10:30 - 11:50  
Enrollment minimum of 5  
**Prerequisite:** 140.636, or consent of instructor

**140.638.01 ANALYSIS OF BIOLOGICAL SEQUENCES**  
(3 units)  
Wheelan, Sarah  
Presents an algorithmic approach to modern biological sequence analysis. Provides an overview of the core algorithms and statistical principles of bioinformatics. Topics include general probability and molecular biology background, sequence alignment (local, global, pairwise and multiple), hidden Markov Models (as powerful tools for sequence analysis), gene finding, and phylogenetic trees. Emphasizes algorithmic perspective although no prior programming experience is required. Covers basic probability and molecular biology in enough detail so that no prior probability or advanced biology classes are required.  
Lecture: T Th 3:30 - 4:50

Please check extradepartmental listing for courses in individual departments.

**140.647.01 ESSENTIALS OF PROBABILITY AND STATISTICAL INFERENCE II: STATISTICAL INFERENCE**  
(4 units)  
Wang, Mei-Cheng  
Provides a modern introduction to the theory of statistical inference. Topics include the frequentist, Bayesian and likelihood approaches to statistical inference including estimation, testing hypotheses and interval estimation. De-emphasizes proofs and replaces them with extended discussion of interpretation of results and simulation for illustration.  
Email: mcwang@jhsph.edu  
Lecture: T Th 3:30 - 4:50  
Lab: TBA  
**Consent of instructor required**  
Consent required only for students who have not taken 140.646  
**Prerequisite:** Working knowledge of calculus

**140.752.01 ADVANCED METHODS IN BIostatISTICS II**  
(3 units)  
Louis, Thomas A.  
Surveys basic statistical inference, estimates, tests and confidence intervals, and exploratory data analysis. Reviews probability distributions and likelihoods, independence and exchangeability, and modes of inference and inferential goals including minimizing MSE. Reviews linear algebra, develops the least squares approach to linear models through projections, and discusses connections with maximum likelihood. Covers linear, least squares regression, transforms, diagnostics, residual analysis, leverage and influence, model selection for estimation and predictive goals, departures from assumptions, efficiency and robustness, large sample theory, linear estimability, the Gauss Markov theorem, distribution theory under normality assumptions, and testing a linear hypothesis.  
Lecture: T Th 10:30 - 11:50  
**Prerequisite:** 140.751

**140.652.01 METHODS IN BIostatISTICS II**  
(4 units)  
Caffo, Brian  
Presents fundamental concepts in applied probability, exploratory data analysis, and statistical inference, focusing on probability and analysis of one and two samples. Topics include discrete and continuous probability models; expectation and variance; central limit theorem; inference, including hypothesis testing and confidence for means, proportions, and counts; maximum likelihood estimation; sample size determinations; elementary non-parametric methods; graphical displays; and data transformations.  
Email: margo@jhsph.edu  
Lecture: T Th 10:30 - 11:50  
Lab: T 1:30 - 2:20 or W 3:00 - 3:50  
**Prerequisite:** 140.651  
Students will choose one lab time: Tuesday 1:30-2:20 OR Wednesday 3-3:50.

**140.756.01 ADVANCED METHODS IN BIostatISTICS VI**  
(4 units)  
Crainiceanu, Ciprian  
Reviews key topics in modern applied statistics. Extends the topics of 140.755 to encompass generalized linear mixed effects models and introduces nonparametric smoothing, functional data analysis and data mining. Includes extensions of linear mixed effects to discrete outcomes, nonlinear and multivariate smoothing, semi-parametric models for clustered data, and statistical learning techniques such as classification, decision trees, and boosting. Emphasizes both rigorous methodological development and practical data analytic strategies. Presents computational methods designed for semi-parametric inference and discusses relevant software.  
Lecture: T Th 10:30 - 11:50  
Lab: T Th 10:00 - 10:20  
**Prerequisite:** 140.751-5

**140.658.01 STATISTICS FOR PSYCHOSOCIAL RESEARCH: STRUCTURAL MODELS**  
(4 units)  
Xue, Qian-Li and Leoutsakos, Jeannie-Marie  
Presents quantitative approaches to theory construction in the context of multiple response variables, with models for both continuous and categorical data. Topics include the statistical basis for causal inference; principles of path analysis; linear structural equation analysis incorporating measurement models; latent class regression; and analysis of panel data with observed and latent variable models. Draws examples from the social sciences, including the status attainment approach to intergenerational mobility, behavior genetics models of disease and environment, consumer satisfaction, functional impairment and disability, and quality of life.  
Email: qxue@jhsph.edu  
Lecture: M W 10:30 - 11:50  
Lab: F 10:00 - 10:50 or F 11:00 - 11:50  
**Consent of instructor required**  
330.657 or consent of instructor  
**Prerequisite:** 330.657 or consent of instructor  
Jointly offered with MH

**140.772.01 ADVANCED STATISTICAL THEORY II**  
(4 units)  
Scharfstein, Daniel  
Examines statistics as a discipline along the path towards making decisions. First examines the justification of statistics from axioms on informed preferences and its close connection to Bayesian theory, and then examines the role of standardizing intermediate steps, through various additional restrictions on estimation, and studies the properties of the resulting methods.  
Email: dscharf@jhsph.edu  
Lecture: T Th 1:30 - 2:50  
Lab: TBA  
Enrollment minimum of 2  
**Prerequisite:** 140.771  
Multi-term with 140.771 - ADVANCED STATISTICAL THEORY I  
Grade for 140.771 and 772 given at completion of 140.772

Please check extradepartmental listing for courses in individual departments.

**140.778.01 ADVANCED STATISTICAL COMPUTING**  
(3 units)  
Ji, Hongkai  
Covers the theory and application of common algorithms used in statistical computing. Topics include root finding, optimization, numerical integration, Monte Carlo, Markov chain Monte Carlo, stochastic optimization and bootstrapping. Some specific algorithms discussed include: Newton-Raphson, EM, Metropolis-Hastings algorithm, Gibbs sampling, simulated annealing, Gaussian quadrature, Romberg integration, etc. Also discusses applications of these algorithms to real research problems.  
Lecture: T Th 8:30 - 9:50  
**Prerequisite:** Prior programming experience; at least one year of doctoral-level statistics/biostatistics theory and methods courses; 140.776

**140.800.01 MPH CAPSTONE BIOSTATISTICS**  
(2 units)  
Departmental Faculty  
The MPH Capstone is an opportunity for students to work on public health practice projects that are of particular interest to them. The goal is for students to apply the skills and competencies they have acquired to a public health problem that simulates a professional practice experience.  
**Pass/fail only**  
**Consent of instructor required**  
Consent from the Capstone Supervisor is Required  
**Prerequisite:** All other MPH core requirements must be taken before or concurrently with the capstone project.  
Registration for this 2-credit course is required during the term that an MPH student completes the capstone project (e.g., 4th term for a full-time MPH student).

**140.820.01 THESIS RESEARCH BIOSTATISTICS**

**140.822.01 SEMINARS IN BIOINFORMATICS**  
(1 unit)  
Departmental Faculty  
Students attend the weekly Expressionists Working Group meeting, where researchers from JHU and other biomedical research institutions present results of state-of-the-art investigations in bioinformatics and related topics, with a particular emphasis on the analysis of gene expression microarray data.  
Lecture: M 2:30 - 4:00  
**Pass/fail only**  
Will be held in departmental space

**140.830.01 POSTDOCTORAL RESEARCH BIOSTATISTICS**

**140.840.01 SPECIAL STUDIES AND RESEARCH BIOSTATISTICS**

**140.850.01 ADVANCED SPECIAL TOPICS IN BIOSTATISTICS**  
(variable units)  
Departmental Faculty  
Exposes Biostatistics PhD students to advanced special topics that are not covered in the core courses. Comprises two- and four-week modules, with revolving instructors and topics. Possible topics include: theory underlying analysis for correlated data; latent variable modeling; advanced survival analysis; image analysis; time series; and likelihood inference.  
Lecture: TBA  
For Biostatistics PhD students only  
**Pass/fail only**  
**Consent of instructor required**  
Consent required only if students have not already completed PhD core courses  
**Prerequisite:** Ph.D. core courses or consent from the instructors

**140.860.01 MHS IN BIOINFORMATICS CAPSTONE PROJECT**  
(variable units)  
Students experience a bioinformatics project in an active research laboratory. They gain practical bioinformatics experience in a research environment. Students interact with active researchers to complete a project that demonstrates their core bioinformatics competencies and skills.  
**Pass/fail only**  
**Consent of instructor required**  
Instructor consent is required.  
**Prerequisite:** Approval of project by academic advisor and project advisor

**140.895.01 MPH PRACTICUM: BIOSTATISTICS**  
(variable units)  
Departmental Faculty  
The MPH Practicum is a mentored, hands-on practical public health experience, which involves meaningful participation and interaction with public health professionals.  
**Pass/fail only**

## Clinical Investigation

**390.676.01 DESIGN OF CLINICAL STUDIES**  
(0 units)  
Merlo, Christian and Lechtzin, Noah  
Introduces students to the design of clinical studies. Familiarizes students with the principle study designs and their application in a clinical setting. Enhances their skills in critical assessment of clinical investigations and prepares them to formulate a brief study protocol for presentation.  
Lecture: M 5:30 - 8:30  
Enrollment minimum of 15  
Enrollment maximum of 50  
Open to SOCI Training Certificate students ONLY  
**Pass/fail only**  
Third of a five-course sequence in the science of clinical investigation. Due to course overlap, students who take this course can not earn academic credit for 140.642 Design of Clinical Experiments.

**Please check extradepartmental listing for courses in individual departments.**

**390.711.01 BIOMEDICAL WRITING II**

(2 units)

McClellan, Deborah

Introduces the process of writing peer-reviewed research paper and provides a brief overview of grant proposal writing. Emphasizes a logical organization, clear writing, and an understanding of readers' and reviewers' expectations. Students prepare selected sections of a first draft of a research paper based on their own research, and they receive feedback on their drafts through in-class discussion and written comments from the instructor.

Email: [gtpci@jhsph.edu](mailto:gtpci@jhsph.edu)

Lecture: Th 9:00 - 10:20

Enrollment minimum of 4

Enrollment maximum of 12

Restricted to GTPCI students.

**Pass/fail only**

**Consent of instructor required**

Consent required of non-GTPCI students

**Prerequisite:** 390.710

Jointly offered with ME

**390.711.02 BIOMEDICAL WRITING II**

(2 units)

McClellan, Deborah

Introduces the process of writing peer-reviewed research paper and provides a brief overview of grant proposal writing. Emphasizes a logical organization, clear writing, and an understanding of readers' and reviewers' expectations. Students prepare selected sections of a first draft of a research paper based on their own research, and they receive feedback on their drafts through in-class discussion and written comments from the instructor.

Lecture: T 3:30 - 5:00

Enrollment minimum of 4

Enrollment maximum of 12

Only offered to GTPCI students.

**Pass/fail only**

**Consent of instructor required**

Instructor consent required.

**Prerequisite:** 390.710

same as 390.711.01

**390.751.01 SEMINARS IN CLINICAL INVESTIGATION**

(2 units)

Flexner, Charles

Presents issues in clinical research, exemplified by readings from classical papers and contemporary literature.

Email: [gtpci@jhsph.edu](mailto:gtpci@jhsph.edu)

Lecture: W 1:30 - 2:50

Restricted to GTPCI students, and faculty and staff with active involvement in clinical research.

Jointly offered with ME

**390.801.01 PROFESIONAL GOALS AND OBJECTIVES**

(1 unit)

Flexner, Charles and Adkinson, Franklin

Consists of didactic sessions focused on careers and mentoring, and meetings between students and their academic advisors and/or potential research mentors to identify a single area of research focus and discuss short- and long-term career goals.

Email: [gtpci@jhsph.edu](mailto:gtpci@jhsph.edu)

Lecture: T 9:00 - 9:50

Restricted to GTPCI students.

**Pass/fail only**

**Consent of instructor required**

Jointly offered with ME

**390.820.01 THESIS RESEARCH IN CLINICAL INVESTIGATION**

**390.840.01 SPECIAL STUDIES AND RESEARCH IN CLINICAL INVESTIGATION**

## **Environmental Health Sciences**

**180.610.01 PRINCIPLES OF ENVIRONMENTAL HEALTH II**

(4 units)

Spannhake, Ernst

Utilizes the concepts, principles and applications of the natural and social science disciplines that form the basis of environmental health to address a series of selected issues of current importance. In a case-study format, students learn and work as members of a group to investigate the driving forces that underlie these issues and explore the values of various strategies of assessment and intervention. Assignments include individual written work and group presentations based upon search of the current literature. Focus is on classroom discussion and the critical evaluation of approaches to environmental health practice. Integrates the practical experiences of students in the class wherever possible.

Lecture: T Th 8:30 - 10:20

Enrollment minimum of 15

Enrollment maximum of 36

**Consent of instructor required**

Consent is required for non-EHS degree candidates.

**Prerequisite:** 180.609.01 Principles of Environmental Health I

**Please check extradepartmental listing for courses in individual departments.**

<p><b>180.634.01 SEMINAR IN HEALTH AND HUMAN RIGHTS I</b> (2 units) Lawrence, Robert Focuses on human rights and relationships between health and human rights. Topics include: (1) international instruments defining human rights and their application with a review of the philosophical and historical origins of these instruments; (2) the interdependency of health and human rights; (3) detailed examination of recent human rights abuses at the individual and population level; (4) human rights violations as they particularly impact health and health care; and (5) the many roles for health professionals in the documentation and amelioration of human rights violations. Lecture: T 3:30 - 5:20 Enrollment minimum of 10 Enrollment maximum of 25 <b>Consent of instructor required</b> Consent of Instructor is required. Required of all MPH students in the Humanitarian Assistance and Human Rights concentration and for non-concentration students planning to fulfill the requirements for the Health and Human Rights Certificate. 180.634 is a prerequisite for 180.635.</p>	<p><b>180.860.01 SPECIAL STUDIES MHS ESSAY</b> (2 units) Spannhake, Ernst Required of all students in the departmental MHS degree program. Provides the opportunity for the student to work with his/her advisor to formulate, research, finalize, and gain approval of the required essay. <b>Pass/fail only</b> This is the first in a series of three courses required of students in the full-time academic MHS program in EHS. Successful completion of this series is necessary for graduation. The student's advisor serves as course instructor.</p>
<p><b>180.650.01 FUNDAMENTALS OF CLINICAL ONCOLOGY FOR PUBLIC HEALTH PRACTITIONERS</b> (3 units) Trock, Bruce Lectures by current practitioners of cancer prevention control in clinical oncology cover the diagnosis, treatment, and prevention/screening measures used for cancers such as lung, breast, prostate, colon/rectal, etc. Email: btrock@jhmi.edu Lecture: Th 5:30 - 8:00 <b>Consent of instructor required</b> <b>Prerequisite:</b> Basic epidemiology and toxicology useful, but not required</p>	<p><b>180.880.01 SPECIAL STUDIES IN ENVIRONMENTAL HEALTH/COMMUNITY OUTREACH</b> (variable units) Trush, Michael In the first and second terms, introduces concepts of environmental justice and community outreach in environmental health by emphasizing ongoing projects in Baltimore. Presentations are by researchers or project directors and their community partners as well as representatives from city and state government. In the third and fourth terms, students have the opportunity to participate in ongoing community-based research projects. This may serve as an MPH integrating experience. Email: mtrush@jhsph.edu Lecture: T 4:00 - 6:00 <b>Pass/fail only</b> <b>Consent of instructor required</b></p>
<p><b>180.800.01 MPH CAPSTONE ENVIRONMENTAL HEALTH SCIENCES</b> (2 units) Departmental Faculty The MPH Capstone is an opportunity for students to work on public health practice projects that are of particular interest to them. The goal is for students to apply the skills and competencies they have acquired to a public health problem that simulates a professional practice experience. <b>Pass/fail only</b> <b>Consent of instructor required</b> Consent from the Capstone Supervisor is Required <b>Prerequisite:</b> All other MPH core requirements must be taken before or concurrently with the capstone project. Registration for this 2-credit course is required during the term that an MPH student completes the capstone project (e.g., 4th term for a full-time MPH student).</p>	<p><b>180.895.01 MPH PRACTICUM: EHS</b> (variable units) Departmental Faculty The MPH Practicum is a mentored, hands-on practical public health experience, which involves meaningful participation and interaction with public health professionals. <b>Pass/fail only</b></p>
<p><b>180.820.01 THESIS RESEARCH ENVIRONMENTAL HEALTH SCIENCES</b></p>	<p><b>182.616.01 ADVANCED TOPICS IN AIRBORNE PARTICLES</b> (2 units) Kesavan, Jana Covers advanced topics in aerosol technology that are important in environmental health sciences, including aerosol generation methodology and equipment, coagulation, condensation, evaporation, electrical properties, optical properties, and aerosol sampling. Students visit an aerosol laboratory at Edgewood Chemical Biological Center that has many pieces of aerosol generation and sampling equipment, chambers, and wind tunnels. Lecture: F 8:30 - 10:20 Enrollment minimum of 3 Enrollment maximum of 15 None <b>Prerequisite:</b> 182.615</p>
<p><b>180.830.01 POSTDOCTORAL RESEARCH ENVIRONMENTAL HEALTH SCIENCES</b></p>	
<p><b>180.840.01 SPECIAL STUDIES AND RESEARCH ENVIRONMENTAL HEALTH SCIENCE</b></p>	

Please check extradepartmental listing for courses in individual departments.

<p><b>182.621.01 INTRODUCTION TO ERGONOMICS</b> (4 units) Agnew, Jacqueline Introduces the fundamental principles of ergonomics, including terminology, concepts, and applications of physiology, anthropometry, biomechanics, psychology, and engineering to work place and work methods design. Emphasizes the complex relationships among workers, job demands, work place designs, and work methods. Prepares students for advanced study in safety science, industrial hygiene, injury prevention, industrial engineering, and safety and health management. Email: mary.lopez@apg.amedd.army.mil Lecture: F 8:30 - 11:50 Enrollment minimum of 4 Enrollment maximum of 25</p>	<p><b>183.861.01 CURRENT RESEARCH IN PHYSIOLOGY</b> (1 unit) Reddy, Sekhara Covers current research topics in environmental and medical physiology. At least once during the year students present a seminar describing their current research project. Email: sreddy@jhsph.edu Lecture: W 12:00 - 1:20 <b>Pass/fail only</b> <b>Consent of instructor required</b></p>
<p><b>182.625.01 PRINCIPLES OF OCCUPATIONAL AND ENVIRONMENTAL HYGIENE</b> (4 units) Lees, Peter Introduces concepts, terminology, and methodology in the practice of industrial hygiene, and identifies resource materials. Includes lectures, typical problems, demonstrations, and a walk-through survey. Email: plees@jhsph.edu Lecture: T Th 1:30 - 3:20</p>	<p><b>186.810.01 FIELD PLACEMENT RADIATION HEALTH SCIENCES</b></p> <p><b>186.820.01 THESIS RESEARCH RADIATION HEALTH SCIENCES</b></p> <p><b>186.830.01 POSTDOCTORAL RESEARCH RADIATION HEALTH SCIENCES</b></p> <p><b>186.840.01 SPECIAL STUDIES AND RESEARCH RADIATION HEALTH SCIENCES</b></p>
<p><b>182.637.01 NOISE AND OTHER PHYSICAL AGENTS IN THE ENVIRONMENT</b> (4 units) Breyse, Patrick Discusses noise-related topics, such as physics of noise propagation and control, noise measurement, hearing physiology, and noise-induced hearing loss, and covers non-ionizing radiation lasers, heat and cold stress, and vibration. Lecture: W F 1:30 - 3:20 <b>Prerequisite:</b> College chemistry and physics, or consent of instructor.</p>	<p><b>187.621.01 PUBLIC HEALTH TOXICOLOGY: ADVANCED TOPICS</b> (1 unit) Departmental Faculty Complements Public Health Toxicology and provides students with additional depth of information regarding topics discussed concurrently in the Toxicology core curriculum. Students are assigned review articles from the literature and primary research papers. Students discuss the data from such papers and an overview of the literature with Toxicology faculty at weekly meetings. Lecture: M 4:00 - 5:20 Students must register for all four terms of this course.</p>
<p><b>182.810.01 FIELD PLACEMENT ENVIRONMENTAL HEALTH ENGINEERING</b></p> <p><b>182.820.01 THESIS RESEARCH ENVIRONMENTAL HEALTH ENGINEERING</b></p> <p><b>182.830.01 POSTDOCTORAL RESEARCH ENVIRONMENTAL HEALTH ENGINEERING</b></p> <p><b>182.840.01 SPECIAL STUDIES/RESEARCH ENVIRONMENTAL HEALTH ENGINEERING</b></p>	<p><b>187.632.01 TOXICOLOGY: THE MOLECULAR BASIS</b> (4 units) Culotta, Valeria and Biswal, Shyam S. Reviews the mechanisms of environmental toxicology at the molecular and genetic levels through faculty lectures and discussion of scientific papers. Topics include cell signaling pathways involved in protection from environmental insults, including the stress responses to heat shock, oxidative damage and exposure to toxic metals and xenobiotics. Addresses the impact of environmental agents on cell growth, cell death and the multi-stages of carcinogenesis. Presents most recent technological advances in the molecular and genetic tools available to study problems of environmental toxicology, which includes bioinformatics, genomic arrays and transgenic animals. Lecture: M W F 10:30 - 11:50 Enrollment minimum of 6 <b>Prerequisite:</b> 187.610 and a basic course in molecular biology or consent of instructor.</p>
<p><b>183.631.01 FUNDAMENTALS OF HUMAN PHYSIOLOGY</b> (4 units) Tankersley, Clarke Encompasses the integration of a variety of organ systems. Invites leading scientists in different fields of physiology to offer exceptional and up-to-date lectures that quickly move through the basic mechanistic principles. Applies basic mechanistic principles of each organ system to current public health issues and environmentally relevant topics. Lecture: M W 1:30 - 3:20 Enrollment minimum of 10</p>	<p><b>187.820.01 THESIS RESEARCH TOXICOLOGICAL SCIENCES</b></p> <p><b>187.830.01 POSTDOCTORAL RESEARCH TOXICOLOGICAL SCIENCES</b></p> <p><b>187.840.01 SPECIAL STUDIES AND RESEARCH TOXICOLOGICAL SCIENCES</b></p>
<p><b>183.820.01 THESIS RESEARCH PHYSIOLOGY</b></p> <p><b>183.830.01 POSTDOCTORAL RESEARCH PHYSIOLOGY</b></p> <p><b>183.840.01 SPECIAL STUDIES AND RESEARCH PHYSIOLOGY</b></p>	

**Please check extradepartmental listing for courses in individual departments.**

- 187.861.01 TOXICOLOGICAL SCIENCES SEMINAR**  
(2 units)  
Bressler, Joseph  
Students, postdoctoral trainees, and faculty in EHS present scientific papers from the current literature dealing with biochemical and molecular mechanisms of toxicity agents.  
Email: [jbressle@jhsph.edu](mailto:jbressle@jhsph.edu)  
Lecture: TBA  
**Pass/fail only**  
**Consent of instructor required**  
**Prerequisite:** 187.610 (previous or concurrent)
- 188.688.01 GLOBAL SUSTAINABILITY & HEALTH SEMINAR**  
(1 unit)  
Schwartz, Brian  
Students and faculty discuss the causes, consequences, and implications of key global environmental challenges that we are facing and that are likely to become more challenging over time. Specifically addresses how land use (e.g., patterns of urban growth and suburban sprawl), energy use, food production and distribution, water use, and population growth are causing climate change, ecosystem degradation, biodiversity losses, species extinctions, and other resource depletion, and how all this is in turn a threat to human health as individuals, in communities, and globally. Focuses on discussion and not lectures and will utilize a mix of movies, guest discussants, and student directed discussions.  
Lecture: W 12:00 - 1:20  
**Pass/fail only**
- 188.810.01 FIELD PLACEMENT OCCUPATIONAL AND ENVIRONMENTAL HEALTH**
- 188.820.01 THESIS RESEARCH OCCUPATIONAL AND ENVIRONMENTAL HEALTH**
- 188.830.01 POSTDOCTORAL RESEARCH OCCUPATIONAL AND ENVIRONMENTAL HEALTH**
- 188.840.01 SPECIAL STUDIES AND RESEARCH OCCUPATIONAL AND ENVIRONMENTAL HEALTH**

- 340.620.01 PRINCIPLES OF CLINICAL EPIDEMIOLOGY**  
(2 units)  
Ford, Daniel and Young, J. Hunter  
Presents lectures and interactive sessions designed to expose students to basic principles of clinical epidemiology and introduce key methods utilized in clinical outcomes research. Focuses on principles and methods in clinical epidemiology which would be most utilized by clinicians/clinician researchers for screening and diagnosis of illness as well as for prognostication and decision-making. Incorporates principles and methods related to measurement of relevant patient outcomes such as patient preferences and health related quality of life. Introduces methods and issues in studying clinical effectiveness of health care technologies and providers (e.g. administrative data).  
Lecture: T 8:00 - 10:20  
**Prerequisite:** 340.751 (Epidemiologic Methods 1)
- 340.624.01 ETIOLOGY, PREVENTION, AND CONTROL OF CANCER**  
(4 units)  
Visvanathan, Kala  
Emphasizes the role of epidemiology in cancer prevention and control. Compares and contrasts the descriptive epidemiology, natural history, and pathologic and biologic characteristics of selected common cancers, as well as factors related to their etiology. Describes specific resources available for cancer studies. Discusses the influence of environmental and genetic factors and their interplay on the development of cancer together with the epidemiologic issues involved in their investigation. Provides overview of problems involved in cancer prevention and screening.  
Email: [gzepp@jhsph.edu](mailto:gzepp@jhsph.edu)  
Lecture: M W F 1:30 - 2:50  
Enrollment minimum of 5  
**Prerequisite:** 340.751-752, or 340.601 concurrent or previous  
Combines content from: 340.625 - ETIOLOGY, PREVENTION, AND CONTROL OF CANCER II  
340.609 - EPIDEMIOLOGIC AND PREVENTIVE ASPECTS OF CANCER  
340.624 combines materials from 340.624 and 340.625 as well as 340.609. Students who have previously taken 340.625 or 340.609 should not take this course.

- 340.627.01 EPIDEMIOLOGY OF INFECTIOUS DISEASES**  
(4 units)  
Nelson, Kenrad  
Introduces the basic methods for infectious disease epidemiology and case studies of important disease syndromes and entities. Methods include definitions and nomenclature, outbreak investigations, disease surveillance, case-control studies, cohort studies, laboratory diagnosis, molecular epidemiology, dynamics of transmission, and assessment of vaccine field effectiveness. Case-studies focus on acute respiratory infections, diarrheal diseases, hepatitis, HIV, tuberculosis, sexually transmitted diseases, malaria, and other vector-borne diseases.  
Lecture: M W F 3:30 - 5:20

## Epidemiology

- 340.611.01 METHODOLOGIC ISSUES IN CANCER EPIDEMIOLOGY**  
(3 units)  
Platz, Elizabeth  
Covers methodologic issues in the conduct of research in cancer etiology, prevention and control. Topics include use of pooling and meta-analysis, interactions, measurement error, biomarkers and risk prediction models.  
Email: [eplatz@jhsph.edu](mailto:eplatz@jhsph.edu)  
Lecture: M W 1:30 - 2:50  
Enrollment minimum of 3  
Enrollment maximum of 8  
**Consent of instructor required**  
**Prerequisite:** 340.753 and 340.624

Please check extradepartmental listing for courses in individual departments.

- 340.630.01 POPULATION GENETICS AND GENETIC EPIDEMIOLOGY**  
(4 units)  
Beaty, Terri and Fallin, Dani Margaret  
Second offering in a four-quarter series. Covers the principles of population genetics needed to understand study designs commonly used in genetic epidemiology and perform needed statistical analyses. Lectures focus on theoretical aspects of how genes behave in populations including Hardy Weinberg Equilibrium and linkage disequilibrium, on models for determining the contribution of genes to disease risk, and on statistical tools and concepts commonly used in genetic epidemiology. For each topic, discusses applications in the context of the study design introduced in the first quarter course, and as a prelude to the methodology to be taught in later courses.  
Email: dfallin@jhsph.edu  
Lecture: T Th 8:30 - 9:50  
Lab: T Th 10:00 - 10:50  
**Consent of instructor required**
- 340.640.01 EYE DISEASE: EPIDEMIOLOGY AND CONTROL**  
(1 unit)  
West, Sheila and West, Emily  
Lectures and small group discussions present the pathology, clinical manifestations, epidemiology, treatment, and control of the major blinding diseases, including cataract, glaucoma, onchocerciasis, trachoma, vitamin A deficiency, and age-related macular degeneration.  
Email: shwest@jhmi.edu  
Lecture: T 3:30 - 4:20  
Enrollment minimum of 8  
**Prerequisite:** 340.601, and 140.621 or former 140.601
- 340.641.01 HEALTHCARE EPIDEMIOLOGY**  
(4 units)  
Perl, Trish  
Introduces the history, descriptive epidemiology, surveillance methods, and economics of exploration of the most important factors influencing nosocomial infections, especially those in pediatric and adult services. Describes and analyzes methods for control of nosocomial infection, including primary and secondary interventions. Also discusses alternative interventions and parallels between contemporary and traditional approaches in developing countries.  
Lecture: T Th 3:30 - 5:20  
Enrollment minimum of 5
- 340.645.01 INTRODUCTION TO CLINICAL TRIALS**  
(3 units)  
Holbrook, Janet  
Introduces clinical trial design in the context of epidemiological concepts, covers various topics in the design and conduct of clinical trials, and profiles clinical trials that illustrate these issues. Topics include the definition and history of clinical trials; trial designs, including phase I-IV, cross-over, factorial, and large, simple designs; internal and external validity; controls, randomization, and masking; ethical issues; data analysis principles; monitoring of accumulating safety and efficacy data; and use of data from randomized trials.  
Email: jholbroo@jhsph.edu  
Lecture: M W F 1:30 - 2:20  
Enrollment minimum of 15  
Enrollment maximum of 75  
**Consent of instructor required**  
If auditing if prerequisite not met  
**Prerequisite:** 340.601 or 340.751
- 340.666.01 FOUNDATIONS OF SOCIAL EPIDEMIOLOGY**  
(3 units)  
Celentano, David  
Reviews the conceptual and theoretical underpinnings of social epidemiology from an historical perspective and then focuses on the scientific findings in the field from the 1970s until today. Since the influence of social context on behavior is well known, and forms the backbone for most health promotion interventions, students initially examine how the social environment influences behavior by shaping norms, reinforcing social control, providing environmental opportunity, and coping strategies. Students use a contextual multi-level approach to explore how social processes influence the etiology and course of common diseases, including socioeconomic position; discrimination; income inequality; control and demands (focusing on the workplace); and social integration/social support/social capital.  
Lecture: T Th 10:30 - 11:50  
Enrollment minimum of 10  
Enrollment maximum of 50  
**Prerequisite:** 340.751 or 340.601 or equivalent.
- 340.717.01 HEALTH SURVEY RESEARCH METHODS**  
(4 units)  
Sherman, Susan and Go, Vivian  
Presents health survey design; sampling methodologies; questionnaire construction and administration; interviewing; coding procedures;. Intended for advanced students.  
Email: ssherman@jhsph.edu  
Lecture: T Th 1:30 - 3:20  
Enrollment maximum of 36  
**Prerequisite:** 340.601 or 340.751 (one course in epidemiologic methods) and 140.621 or 140.651.
- 340.744.01 ADVANCED TOPICS ON CONTROL AND PREVENTION OF HIV/AIDS**  
(4 units)  
Farzadegan, Homayoon  
Focuses on directed readings and discussion on the science and pathogenesis of HIV/AIDS. Covers dynamics of the HIV epidemic in the populated world, difficulties and contrasts between clinical management of HIV/AIDS in developed and developing countries, prevention and control modalities against HIV/AIDS, and predicting patterns of future growth of the HIV/AIDS epidemic with special reference to global economic impact of HIV vaccine and eradication issues of HIV/AIDS.  
Lecture: M W 1:30 - 3:20  
Enrollment minimum of 5  
Enrollment maximum of 75  
**Prerequisite:** 340.646

**Please check extradepartmental listing for courses in individual departments.**

<p><b>340.752.01</b></p>	<p><b>EPIDEMIOLOGIC METHODS 2</b> (5 units) Guallar, Eliseo and Jacobson, Lisa Second offering in the Epidemiologic Methods sequence. Builds on the concepts of epidemiologic reasoning, causal inference, and cohort design taught in Epidemiologic Methods 1. Provides a detailed presentation of threats to validity (information, confounding and selection bias), precision, and study generalizability. Discusses a wide range of epidemiologic designs in detail, together with their advantages and limitations. Provides experience through laboratory exercises with epidemiologic methods and inference, issues in study design, calculation of measures of association, and literature interpretation. Email: akhan@jhsph.edu Lecture: M W F 8:30 - 9:50 Lab: M W 10:00 - 11:50 Enrollment minimum of 30 Enrollment maximum of 230 No auditors permitted. <b>Consent of instructor required</b> Consent required for special students and non-JHSPH students. <b>Prerequisite:</b> Epidemiologic Methods 1 (340.751), Statistical Methods in Public Health I (140.621) or Methods in Biostatistics I (140.651), and prior or concurrent enrollment in Statistical Methods in Public Health II (140.622) or Methods in Biostatistics II (140.652).</p>		<p><b>340.800.01</b></p>	<p><b>MPH CAPSTONE EPIDEMIOLOGY</b> (2 units) Departmental Faculty The MPH Capstone is an opportunity for students to work on public health practice projects that are of particular interest to them. The goal is for students to apply the skills and competencies they have acquired to a public health problem that simulates a professional practice experience. <b>Pass/fail only</b> <b>Consent of instructor required</b> Consent from the Capstone Supervisor is Required <b>Prerequisite:</b> All other MPH core requirements must be taken before or concurrently with the capstone project. Registration for this 2-credit course is required during the term that an MPH student completes the capstone project (e.g., 4th term for a full-time MPH student).</p>
		<p><b>340.810.01</b></p>	<p><b>FIELD PLACEMENT EPIDEMIOLOGY</b></p>	
		<p><b>340.820.01</b></p>	<p><b>THESIS RESEARCH EPIDEMIOLOGY</b></p>	
		<p><b>340.830.01</b></p>	<p><b>POSTDOCTORAL RESEARCH EPIDEMIOLOGY</b></p>	
		<p><b>340.840.01</b></p>	<p><b>SPECIAL STUDIES AND RESEARCH EPIDEMIOLOGY</b></p>	
		<p><b>340.843.01</b></p>	<p><b>SS/R: TRANSLATING EPIDEMIOLOGY FOR THE WEB</b> (1 unit) Samet, Jonathan Provides an opportunity for students to be directly involved in translating epidemiologic research for the public. With faculty oversight, students develop content (including glossary terms and Q &amp; A's) for the "Ask an Epidemiologist" website, based on questions of public concern and topics of interest. <b>Pass/fail only</b></p>	
<p><b>340.761.01</b></p>	<p><b>APPLIED EPIDEMIOLOGY I</b> (4 units) Feinleib, Manning and Sifakis, Frangiscos Discusses applications of epidemiology in the "real world" settings of ministries or departments of health, end-user knowledge and interpretation of surveillance studies, risk communication, and effectiveness trials. Also addresses translational issues and communication of scientific findings. Focuses on evaluating and interpreting results from single source study report or data. Laboratory sessions each week elaborate on the major themes discussed in the lecture series, and involve group discussion of either specific exercises or reading material. Lecture: M 9:00 - 10:20 Lab: W F 8:30 - 10:20 <b>Prerequisite:</b> 340.601 or 340.751; Biostatistics 140.611, 140.621 or 140.651 For the 2008-09 academic year, students who take this course should not also take Observational Epidemiology (340.608).</p>	<p><b>340.851.01</b></p>	<p><b>PHASE INTERNSHIP</b> (variable units) Sifakis, Frangiscos Familiarizes students with public health practice settings and provides hands-on experience about research topics in practice. Students synthesize and integrate knowledge acquired in coursework and apply it to a practical issue. Field experiences, seminars, research projects, and a scientific paper form the basis for the course. Email: fsifakis@jhsph.edu <b>Pass/fail only</b> <b>Consent of instructor required</b> Instructor must meet with each student accepted to this program. <b>Prerequisite:</b> 340.751 Epid Methods I, 340.601 Principles of Epidemiology, or equivalent.</p>	

**Please check extradepartmental listing for courses in individual departments.**

**340.863.01 DOCTORAL SEMINARS IN EPIDEMIOLOGY**

(3 units)

Goodman, Steven

Provides a forum in which the doctoral students present and discuss papers on topics relative to epidemiologic principles and practice. Proposed topics include issues in measurement, causal reasoning, confounding, and multilevel modeling. Faculty guides the selection of topics and readings, and facilitates active dialog among seminar participants.

Email: sgoodman@jhsph.edu

Lecture: T 4:00 - 5:50

Enrollment minimum of 5

Enrollment maximum of 45

post-comprehensive, second year doctoral students in Epidemiology

**Consent of instructor required**

**Prerequisite:** 340.601-604 and department written comprehensive exam.

**340.871.01 WELCH CENTER RESEARCH SEMINAR**

(1 unit)

Selvin, Elizabeth

Students, postdoctoral fellows, and faculty present scientific papers from the current and/or classic literature dealing with epidemiologic research, focusing on clinical and cardiovascular epidemiology. Emphasizes presentation skills and the ability to critically evaluate scientific papers. Uses a journal-club format in which one or more papers are distributed in advance; participants are expected to read and discuss the assigned material.

Lecture: T 12:00 - 1:20

**Pass/fail only**

**340.895.01 MPH PRACTICUM: EPIDEMIOLOGY**

(variable units)

Departmental Faculty

The MPH Practicum is a mentored, hands-on practical public health experience, which involves meaningful participation and interaction with public health professionals.

**Pass/fail only**

**550.854.01 SEMINAR FOR MPH CONCENTRATION IN SOCIAL AND BEHAVIORAL SCIENCES II**

(1 unit)

Winch, Peter

Provides additional skills necessary to successfully complete a Capstone Project related to social and behavioral sciences. Identifies career paths that MPH graduates interested in social and behavioral aspects of public health can follow.

Lecture: F 12:00 - 1:20

**Pass/fail only**

**550.864.01 BALTIMORE COMMUNITY PRACTICUM**

(variable units)

Taylor, Henry and Levin, Mindi

Students conduct a project involving a defined denominator population at a community-based organization or local health department. They also participate in seminar sessions which cover basic methods of outreach to community organizations, attitudes and values about the role of professionals in community-based work, the social contract required of service professionals, and the attitudes required for effective public health practice.

Lecture: T 3:30 - 4:20

Lab: TBA

Enrollment maximum of 20

**Pass/fail only**

**Consent of instructor required**

Students are required to discuss project with site preceptor and course director

**Prerequisite:** None

**550.866.01 PUBLIC HEALTH PERSPECTIVES ON RESEARCH II**

(1 unit)

Kumar, Nirbhay

Introduces the substantive and methodologic basis for public health research presenting human health throughout the life span; the major causes of morbidity and mortality; and strategies for health interventions in each stage of life. Also provides examples of common public health methodology drawn from the quantitative, qualitative, biologic, social, and behavioral sciences. Highlights principles of high-quality research, including the value of a population perspective, interdisciplinary cooperation, the importance of new measurement techniques, and the interface between theory and practice. Gives students information about the interactions between the public and the researcher.

Email: mksmith@jhsph.edu

Lecture: T 10:30 - 11:50 and F 1:30 - 2:50

Multi-term with 550.865 - PUBLIC HEALTH PERSPECTIVES ON RESEARCH

Students must complete both sections (550.865 and 550.866) in order meet the PHP requirement; grades are issued at the end of term 2 for both terms.

Required of all PhD/ScD students, ScM students, and MHS students enrolled in academic/advanced study programs. Certain students may obtain waivers: 1. students with an MPH degree from a domestic institution within the last ten years 2. students enrolled in a professional MHS program or in the DrPH program, 3. students who have taken graduate-level courses in the five CEPH core areas that are biostatistics, epidemiology, social and behavioral sciences, environmental health sciences, and health systems administration. Waivers to this course can be obtained from Dr. Nirbhay Kumar nkumar@jhsph.edu

## Extradepartmental

**550.001.01 ENGLISH FOR ACADEMIC PURPOSES**

(0 units)

Hong Smith, Vicki

Focuses on academic writing skills including documentation styles, and combines Saturday class meetings with online assignments and one individual conference.

Email: sbazzett@jhsph.edu

Lecture: S 10:30 - 3:20

Enrollment minimum of 5

Enrollment maximum of 12

**Pass/fail only**

**Consent of instructor required**

Consent of Student Affairs required. Please email contact person

Please check extradepartmental listing for courses in individual departments.

550.870.01	<p><b>SS/R: OCCUPATIONAL MEDICINE RESIDENCY-PRACTICUM YEAR</b> (variable units) Weaver, Virginia and Schwartz, Brian Occupational medicine resident physicians do a series of clinical, administrative, regulatory, and plant-based rotations throughout the year. Lecture: TBA Residency training. <b>Pass/fail only</b> <b>Consent of instructor required</b> Must have approval of program director.</p>	551.603.01	<p><b>FUNDAMENTALS OF BUDGETING AND FINANCIAL MANAGEMENT</b> (3 units) Ward, William Explains the role of budgeting as a key component of the administrative process. Students learn to develop a budget and evaluate the financial status of a department or operating unit and determine what, if any, corrective actions need to be taken. Presents various analytical methods in management decision making, including benefit/cost ratio analysis, variance analysis, and break-even analysis. Also includes approaches to benchmarking, productivity improvement techniques, and methods for building cost standards. Email: jsavage@jhsph.edu Lecture: M 3:30 - 5:50 Enrollment minimum of 10 MHA students must register for section 01; restricted to graduate students Jointly offered with IH, HPM</p>
550.873.01	<p><b>SEMINAR IN PUBLIC HEALTH LEADERSHIP</b> (1 unit) Morlock, Laura Provides a framework for the development of advanced professional practice and leadership in public health. Topics include the scope of public health, leadership competencies, problem solving, and communication skills. Involves presentations by faculty, guest speakers, and students. Email: gwhite@jhsph.edu Lecture: TBA Restricted to DrPH students. <b>Pass/fail only</b> <b>Consent of instructor required</b> This course is restricted to students officially enrolled in the DrPH program only. Students must obtain the permission of Gail White in order to register</p>	551.603.02	<p><b>FUNDAMENTALS OF BUDGETING AND FINANCIAL MANAGEMENT</b> (3 units) Departmental Faculty Explains the role of budgeting as a key component of the administrative process. Students learn to develop a budget and evaluate the financial status of a department or operating unit and determine what, if any, corrective actions need to be taken. Presents various analytical methods in management decision making, including benefit/cost ratio analysis, variance analysis, and break-even analysis. Also includes approaches to benchmarking, productivity improvement techniques, and methods for building cost standards. Lecture: M 3:30 - 5:50 Enrollment minimum of 10 restricted to graduate students</p>
550.880.01	<p><b>SS/R: GENERAL PREVENTIVE MEDICINE RESIDENCY-MPH</b> (1 unit) Alexander, Miriam Email: lmyers@jhsph.edu Lecture: TBA Restricted to MPH/GPMR during MPH year. <b>Pass/fail only</b></p>	551.604.01	<p><b>QUANTITATIVE TOOLS FOR MANAGERS</b> (3 units) Dickson, Conan Provides current and future managers in health care with operational understanding of quantitative modeling tools that can be used to support decision-making. Involves formulation of decision problems into models, solving models using spreadsheet and optimization software, and interpretation of modeling results. Modeling methods to be covered include linear programming, decision analysis, queueing, and simulation. These methods are applied to problems involving staffing, scheduling, patient flow analysis and other management problems. Email: jsavage@jhsph.edu Lecture: W F 1:30 - 2:50 Enrollment minimum of 10 Enrollment maximum of 40 <b>Consent of instructor required</b> All students must receive consent from Jamila Savage to register. <b>Prerequisite:</b> Intermediate level of Excel competence Jointly offered with IH, HPM</p>
550.890.01	<p><b>SS/R: GENERAL PREVENTIVE MEDICINE RESIDENCY-RESIDENCY YEAR</b> (variable units) Alexander, Miriam Email: lmyers@jhsph.edu Lecture: TBA Restricted to GPMR during post MPH year. <b>Pass/fail only</b></p>		
550.980.01	<p><b>INTRODUCTION TO COURSEPLUS</b> (0 units) He, Sherry and Klaas, Brian Provides an introduction to the CoursePlus, the system for creating online enhancements to on-campus classes at JHSPH. Covers the basic tools available in all CoursePlus sites, including in-depth discussions of new features in the system, such as the DropBox, the class email tool, session organization, and surveys. &lt;Long Text&gt;</p>		

Please check extradepartmental listing for courses in individual departments.

**551.610.01 FOUNDATIONS OF LEADERSHIP: A LEADERSHIP SURVEY COURSE**  
(3 units)  
Gundlach, Ann-Michele  
Students develop an understanding of the role of the organizational leader, and the essential knowledge and skills the role requires. Designed to provide a framework for understanding the process of working effectively with and leading others. Drawing from a variety of disciplines, places emphasis on the role of the leader in relation to organizational effectiveness, developing a vision for the future, leading change, and building adaptive organizational cultures.  
Email: jsavage@jhsph.edu  
Lecture: W 3:30 - 6:20  
Enrollment minimum of 5  
Enrollment maximum of 35  
**Consent of instructor required**  
All students must receive consent from Jamila Savage to register.  
Jointly offered with HPM

**410.650.01 INTRODUCTION TO PERSUASIVE COMMUNICATIONS: THEORIES AND PRACTICE**  
(4 units)  
Rimal, Rajiv  
Readings, lectures, discussions, and exercises prepare students to apply selected social-psychological and health communication theories and research to the development of effective health messages. Emphasizes critical thinking skills in analyzing core elements of persuasive communication and the applicability of social science theory to health campaigns. Also emphasizes theory. It is designed with the old adage that there is nothing more practical than a good theory. Although the application of theory in designing effective messages is an important element of the course, the primary focus is on understanding various theoretical approaches to effective message design, cognitive processing, and attitude change.  
Lecture: M W 1:30 - 3:20  
**Prerequisite:** Previous course in psychology, preferably social psychology, required of undergraduates

## Health Behavior and Society

**410.619.01 INTEGRATING SOCIAL AND BEHAVIORAL THEORY INTO PUBLIC HEALTH. PART II: APPLICATIONS**  
(4 units)  
Wissow, Lawrence  
Builds upon knowledge of basic public health concepts and theory, showing how they are incorporated into intervention design and evaluation on an individual, group, community, and national scale. Using an ecologic framework and employing a variety of structural, health communication, and health education tools, applies theoretical perspectives from anthropology, geography, sociology, and psychology to health behavior interventions in paradigmatic settings (health services, communities, large populations). Uses a combination of lectures, reading, and small group exercises to demonstrate the dynamic relationship of theory and intervention.  
Email: lwissow@jhsph.edu  
Lecture: M W 3:30 - 4:50  
Lab: Th 1:30 - 2:20 or F 10:30 - 11:20  
Enrollment minimum of 20  
**Prerequisite:** 410.618  
Combines content from: 410.616 - SOCIAL AND BEHAVIORAL ASPECTS OF PUBLIC HEALTH  
Students will select one 1-hour lab time.

**410.710.01 CONCEPTS IN QUALITATIVE RESEARCH FOR SOCIAL AND BEHAVIORAL SCIENCES**  
(3 units)  
Smith, Katherine Clegg  
Provides an overview of the development of a qualitative approach within public health research and practice, focusing on the philosophical underpinnings to qualitative research and the application of such methods to key contemporary public health questions. Considers questions such as, "What counts as knowledge?", "What are appropriate and useful public health data?", and "How do we learn about new issues?" Focuses on concepts, particularly highlighting the nature of qualitative questions and data. Not intended to provide training in conducting independent qualitative research.  
Lecture: M W 1:30 - 2:50  
undergraduates not permitted  
**Prerequisite:** 410.615

**410.631.01 INTRODUCTION TO COMMUNITY-BASED PARTICIPATORY RESEARCH: PRINCIPLES AND METHODS**  
(3 units)  
Bowie, Janice and Bone, Lee and Tandon, Darius  
Introduces students to the fundamental principles of, rationale for, and key considerations in conducting community-based participatory research (CBPR). Offers knowledge of and skills in CBPR that emphasize the importance of community inclusion and partnership as a viable approach to constructing and increasing the acceptance of interventions and improving the health and well-being of populations.  
Lecture: M W 10:30 - 11:50  
Enrollment minimum of 15  
Enrollment maximum of 40  
Not open to students who completed 410.841.11.  
Master's and doctoral students interested in CBPR.

**410.800.01 MPH CAPSTONE HEALTH, BEHAVIOR AND SOCIETY**  
(2 units)  
Departmental Faculty  
The MPH Capstone is an opportunity for students to work on public health practice projects that are of particular interest to them. The goal is for students to apply the skills and competencies they have acquired to a public health problem that simulates a professional practice experience.  
**Pass/fail only**  
**Prerequisite:** All other MPH core requirements must be taken before or concurrently with the capstone project.  
Registration for this 2-credit course is required during the term that an MPH student completes the capstone project (e.g., 4th term for a full-time MPH student).

**410.810.01 FIELD PLACEMENT HEALTH BEHAVIOR AND SOCIETY**  
**410.820.01 THESIS RESEARCH IN HEALTH BEHAVIOR AND SOCIETY**  
**410.830.01 POSTDOCTORAL RESEARCH IN HEALTH BEHAVIOR AND SOCIETY**  
**410.840.01 SPECIAL STUDIES AND RESEARCH IN HEALTH BEHAVIOR AND SOCIETY**

**Please check extradepartmental listing for courses in individual departments.**

**410.860.01 GRADUATE SEMINAR IN SOCIAL AND BEHAVIORAL SCIENCES**  
(variable units)  
Knowlton, Amy  
Reviews and critiques current literature in the behavioral sciences and evaluates studies from a methodological and conceptual basis.  
Lecture: T 1:30 - 3:20  
Enrollment minimum of 5  
Enrollment maximum of 20  
Restricted to HBS doctoral students

**410.861.01 GRADUATE SEMINAR IN COMMUNITY-BASED RESEARCH**  
(1 unit)  
Bone, Lee and Bowie, Janice  
Explores faculty-community partnership in community-based research (CBPR), education, and practice. Seminar topics may include CBPR principles and ethics, coalition and partnership building, implementation, dissemination, translation and sustainability, media and marketing, advocacy, policy, cultural diversity, collaborative grant writing, and publishing. Speakers include faculty, Kellogg scholars, and community patrons. This seminar is open to all divisions in the University and community.  
Email: lbone@jhsph.edu  
Lecture: T 12:00 - 1:20 1st and 3rd Tuesdays  
**Pass/fail only**

**410.866.01 CAREERS IN HEALTH EDUCATION AND HEALTH PROMOTION**  
(1 unit)  
McDonald, Eileen  
Introduces a variety of settings in which health education, promotion, and communication work takes place, including but not limited to local, state, and federal government agencies, voluntary health agencies, educational institutions, and consulting firms. Describes health education, promotion, and communication projects, programs, and campaigns covering a wide array of health topics.  
Email: emcdonal@jhsph.edu  
Lecture: W 12:00 - 1:20  
Restricted to MHS students in BSHE and students pursuing certificate in Health Education.  
**Pass/fail only**  
**Consent of instructor required**

**410.871.01 HBS RESEARCH AND PROPOSAL WRITING PROCESS FOR DOCTORAL STUDENTS II**  
(2 units)  
Davey-Rothwell, Melissa and Tobin, Karen  
Acquaints doctoral students with the dissertation proposal and preparation for preliminary oral examination processes. Assists students in making progress on their own proposal through refinement of writing, literature synthesis and critique, and peer review skills. Each session focuses on a specific stage of proposal development for behavioral research including developing a comprehensive conceptual framework, formulating research questions and hypotheses, choosing appropriate study design and methodologies, identifying reliable and valid measures, developing a sound data analysis plan, and ensuring compliance with Human Subjects regulations. Reviews departmental and school-wide requirements for dissertation proposals and preliminary examinations. Discusses application of dissertation proposal and examination preparation skills to professional activities such as manuscript development and conference presentations.  
Lecture: W 8:30 - 10:20  
HBS doctoral students  
**Pass/fail only**  
**Consent of instructor required**  
Required for HBS doctoral students in their 2nd year Multi-term with 410.870 - HBS RESEARCH AND PROPOSAL WRITING PROCESS FOR DOCTORAL STUDENTS I  
Grade is given for both 410.870 and 410.871 upon completion of 410.871.

**410.895.01 MPH PRACTICUM: HEALTH BEHAVIOR AND SOCIETY**  
(variable units)  
Departmental Faculty  
The MPH Practicum is a mentored, hands-on practical public health experience, which involves meaningful participation and interaction with public health professionals.  
**Pass/fail only**

## **Health Policy and Management**

**300.651.01 INTRODUCTION TO THE U.S. HEALTHCARE SYSTEM**  
(4 units)  
Herring, Bradley  
Focuses on the organization, financing, and delivery of healthcare in the U.S. Contrasts the private and public sectors and examines the effects of market competition and government regulation. Examines the ways that medical providers are paid, and explores the major issues currently facing physicians, hospitals, and the pharmaceutical industry. Also discusses several potential small and large scale reforms to the U.S. healthcare system and evaluates their likely effects on healthcare spending, quality of care, and access to care.  
Email: bherring@jhsph.edu  
Lecture: T Th 1:30 - 3:20  
Restricted to graduate students

**Please check extradepartmental listing for courses in individual departments.**

<p><b>300.712.01 HEALTH POLICY II: PUBLIC HEALTH POLICY FORMULATION</b> (3 units) Teret, Stephen Explores the considerations, activities and participants involved in the formulation of public health policy. Examines the process of selecting and assessing policy options, and discusses the role that various players have in the making of health policy. Through the analyses of case studies, students learn how policy-makers interact, and how outside influences such as the media and advocates help shape policy. Presents basic legal principles that govern health policy, and discusses the roles of economics and ethics in policy formulation. Email: msewell@jhsph.edu Lecture: T Th 9:00 - 10:20 Enrollment minimum of 10 no undergraduates permitted in this course <b>Prerequisite:</b> none</p>	<p><b>301.615.01 SEMINAR IN HEALTH DISPARITIES</b> (3 units) LaVeist, Thomas Students learn the nature of racial and ethnic disparities in health status, and become familiar with the research literature on race disparities. Students responsible to do all readings, contribute an annotated bibliography of research on a minority health topic selected by the students (with consent of the instructor) and produce a literature review on that topic. Email: tlaveist@jhsph.edu Lecture: M 3:30 - 5:50 Enrollment maximum of 36</p>
<p><b>300.722.01 HEALTH POLICY II: PUBLIC HEALTH POLICY FORMULATION PHD LAB</b> (1 unit) Teret, Stephen Supplements and builds upon the course entitled Public Health Policy Formulation. Students analyze and discuss in depth the materials presented in that course. Lecture: TBA restricted to HPM PhD students only <b>Pass/fail only</b></p>	<p><b>301.820.01 THESIS RESEARCH IN HEALTH POLICY AND MANAGEMENT</b></p> <p><b>301.861.01 GRADUATE SEMINAR IN HEALTH AND PUBLIC POLICY</b> (1 unit) Frattaroli, Shannon Reviews and critiques current literature in health and public policy and evaluates studies from a methodological and conceptual basis. Email: msewell@jhsph.edu Lecture: TBA Restricted to Health &amp; Pub Policy HPM doctoral students. <b>Pass/fail only</b></p>
<p><b>300.800.01 MPH CAPSTONE HEALTH POLICY AND MANAGEMENT</b> (2 units) Departmental Faculty The MPH Capstone is an opportunity for students to work on public health practice projects that are of particular interest to them. The goal is for students to apply the skills and competencies they have acquired to a public health problem that simulates a professional practice experience. <b>Pass/fail only</b> <b>Consent of instructor required</b> Consent from the Capstone Supervisor is Required. <b>Prerequisite:</b> All other MPH core requirements must be taken before or concurrently with the capstone project. Registration for this 2-credit course is required during the term that an MPH student completes the capstone project (e.g., 4th term for a full-time MPH student).</p>	<p><b>305.607.01 PUBLIC HEALTH PRACTICE</b> (4 units) Burke, Thomas Focuses on the areas of knowledge and skill necessary to the administration of health agencies in and outside of government. Studies administrative structure, intergovernmental relations, legislation, politics, and the public budgetary process with reference to health departments on the federal, state, and local levels. Reviews public sector issues for which health agencies are responsible, including AIDS, health promotion strategies, primary care, environmental health and immunization programs. Email: rdranbau@jhsph.edu Lecture: M W 1:30 - 3:20 Enrollment minimum of 20 Enrollment maximum of 75 <b>Consent of instructor required</b> Consent required of undergraduates</p>
<p><b>300.830.01 POSTDOCTORAL RESEARCH HEALTH POLICY AND MANAGEMENT</b></p> <p><b>300.840.01 SPECIAL STUDIES AND RESEARCH IN HEALTH POLICY AND MANAGEMENT</b></p> <p><b>300.895.01 MPH PRACTICUM: HPM</b> (variable units) Departmental Faculty The MPH Practicum is a mentored, hands-on practical public health experience, which involves meaningful participation and interaction with public health professionals. <b>Pass/fail only</b></p>	<p><b>305.612.01 EPIDEMIOLOGIC METHODS IN INJURY CONTROL</b> (3 units) Pollack, Keshia Prepares students to conduct research regarding the distribution, determinants, and outcomes of unintentional and intentional injuries, and also to evaluate injury research studies. Email: kpollack@jhsph.edu Lecture: M W 1:30 - 2:50 Enrollment minimum of 10 <b>Prerequisite:</b> 340.601 &amp; 305.610 or consent of instructor</p>

Please check extradepartmental listing for courses in individual departments.

<p><b>305.861.01</b>    <b>GRADUATE SEMINAR IN INJURY RESEARCH AND POLICY</b> (1 unit) Pollack, Keshia Students attend weekly seminars offered by the Center for Injury Research and Policy and read literature provided to accompany each presentation. Seminar topics complement the content areas of current courses and include themes of global perspectives in injury control, contemporary thoughts in violence prevention, advanced methods in injury research, and updates in trauma and rehabilitation research. The last week of each course is devoted to an in-depth discussion of the terms' seminars. Lecture: T 12:00 - 1:20 <b>Pass/fail only</b></p>	<p><b>308.810.01</b>    <b>FIELD PLACEMENT HEALTH POLICY-MHS</b></p>	<p><b>308.867.01</b>    <b>M.H.S. SEMINAR IN HEALTH POLICY</b> (1 unit) Sleicher, Dana Introduces work undertaken in health policy settings and prepares M.H.S. students in Health Policy and Management for the field placement requirement in the second year of the program. Email: dsleiche@jhsph.edu Lecture: W 12:00 - 1:20 Restricted to MHS in Health Policy degree candidates <b>Pass/fail only</b> <b>Consent of instructor required</b></p>
<p><b>306.625.01</b>    <b>ETHICAL ISSUES IN HEALTH POLICY: PUBLIC HEALTH AND HEALTH CARE</b> (3 units) Taylor, Holly Explores ethics, the moral relevance of health and the use of ethics in the assessment of health policy. Acquaints students with a number of theories of social justice. Also explores contemporary public health and health care policy issues (e.g. environmental toxin, pay for performance), using the lens of ethical analysis to supplement other approaches to policy analysis. Students develop their skills in ethical analysis and reasoning in order to critique and compare alternative strategies for to address public health and health care policy issues. Lecture: F 9:00 - 11:50 Enrollment minimum of 5 <b>Consent of instructor required</b> Consent required for undergraduates</p>	<p><b>309.712.01</b>    <b>ASSESSING HEALTH STATUS AND PATIENT OUTCOMES</b> (3 units) MacKenzie, Ellen and Wu, Albert Provides an understanding of the conceptual basis for measures of health; some of the common measures, their properties, and strengths and weaknesses; and a framework for judging the appropriateness of a particular measure for students' own work. Lecture: M W 1:30 - 3:20 Enrollment minimum of 12</p>	<p><b>309.715.01</b>    <b>ADVANCED METHODS IN HEALTH SERVICES RESEARCH: RESEARCH DESIGN</b> (4 units) Kasper, Judith Covers components of research design for population-based studies drawn from secondary data. Topics include: a framework for evaluating research design, introduction to secondary data sources, defining study populations, complex sampling designs, data structure, and content in national health surveys, principles of questionnaire design, survey data collection methodologies, and selected measurement issues. Emphasizes secondary data from national health and health care surveys, but also addresses major health program administrative datasets (e.g. Medicare, Medicaid). Classroom discussion uses examples from studies of vulnerable populations, access to care, financing and service delivery to illustrate the translation of theory to practice. Lecture: T Th 1:30 - 3:20 <b>Prerequisite:</b> 309.616-617 or 300.716 or consent of instructor</p>
<p><b>306.861.01</b>    <b>GRADUATE DOCTORAL SEMINAR IN BIOETHICS</b> (1 unit) Kass, Nancy Familiarizes students with contemporary and classic literature in bioethics and demonstrates how to rigorously critique empirical and normative writings in the field of bioethics. Readings for the seminar include recent publications in bioethics and some classic pieces in the field. Students are primarily responsible for selection of articles and for presentation of articles for discussion. Lecture: TBA <b>Pass/fail only</b> <b>Consent of instructor required</b> Students who are NOT doctoral students in the bioethics track require permission of the instructor</p>	<p><b>309.861.01</b>    <b>GRADUATE SEMINAR IN HEALTH SERVICES RESEARCH AND POLICY</b> (1 unit) Weiner, Jonathan Provides opportunity to learn about faculty research, review current literature, discuss issues and concepts relevant to the field of health services research, and prepare for comprehensive exams and proposal writing. Intended for doctoral students concentrating in health services and outcomes research or gerontology and long-term care. Lecture: TBA PhD students in HPM -Health Services Research and Policy program only <b>Pass/fail only</b></p>	<p><b>311.820.01</b>    <b>THESIS RESEARCH HPM-DRPH</b></p>
<p><b>306.863.01</b>    <b>GREENWALL SEMINAR SERIES</b> (1 unit) Merritt, Maria Explores the history of bioethics in the U.S. by examining its effects on health policy. Readings and discussion focus on federal commissions, federal and state court decisions, the ethics committee movement, federal and state regulations, professional organizations, and grassroots bioethics movements. Students meet with policy makers and scholars in bioethics and health policy. Email: mmerritt@jhsph.edu Lecture: TBA Enrollment minimum of 3 Restricted to Greenwall fellows and senior doctoral students in ethics program <b>Pass/fail only</b> <b>Consent of instructor required</b></p>		

Please check extradepartmental listing for courses in individual departments.

<p><b>311.861.01 GRADUATE SEMINAR IN HEALTH CARE MANAGEMENT AND LEADERSHIP</b> (1 unit) Morlock, Laura and Pronovost, Peter Provides opportunity to discuss concepts and issues related to organizational performance improvement, organizational performance indicators, and change strategies. Facilitates preparation for comprehensive exams and the design and conduct of dissertation projects. Intended for DrPH students concentrating in Health Care Management and Leadership. Student evaluation based on seminar presentations and participation. <b>Pass/fail only</b> <b>Consent of instructor required</b> Consent of instructor is required.</p>	<p><b>313.671.01 MATHEMATICAL MICROECONOMICS II</b> (3 units) Bridges, John Explores the essential topics of microeconomics: assumptions about markets, theory of the consumer, theory of the firm, market equilibrium, market failure, public goods, government intervention and game theory. Provides students with a graduate level introduction to microeconomics and will utilize both linear algebra and calculus. While discussion focuses predominately on first order conditions, students are encouraged to examine second order conditions, and other advanced theory and methods such as Kuhn-Tucker conditions, duality, and envelope theorems. Lecture: F 1:30 - 4:20 Enrollment minimum of 7 <b>Prerequisite:</b> 313.670 Multi-term with 313.670 - MATHEMATICAL MICROECONOMICS I Grade for both 313.670 and 313.671 is submitted at the end of this course and is applied to both classes.</p>
<p><b>312.810.01 FIELD PLACEMENT HEALTH FINANCE AND MANAGEMENT-MHS</b></p>	<p><b>313.861.01 PUBLIC HEALTH ECONOMICS SEMINAR</b> (1 unit) Herring, Bradley Exposes students to recent research in various areas of health economics, such as healthcare financing; the production and regulation of medical services; economic evaluation; the determinants of health; and the relationships between health, population, environment, and development. Focuses on theoretical and empirical techniques in health economics and considers the policy implications of the findings. This seminar setting allows researchers to present their work-in-progress, with the goals of disseminating their analysis to others and receiving constructive feedback to improve their subsequent analyses. The speakers are a mix of faculty and Ph.D. candidates within the school and faculty outside the school at either other universities or research organizations. Email: bherring@jhsph.edu Lecture: TBA <b>Pass/fail only</b></p>
<p><b>312.867.01 MHA SEMINAR IN HEALTH FINANCE AND MANAGEMENT</b> (1 unit) Schwartz, Teresa Introduces students to current health care finance and management issues through a series of discussion sessions with program directors and guest lecturers. Prepares students for the program's fourth term case competition and the second year field placement requirement. Email: tschwartz@jhsph.edu Lecture: TBA Restricted to MHA students only <b>Pass/fail only</b></p>	<p><b>317.610.01 RISK POLICY, MANAGEMENT AND COMMUNICATION</b> (3 units) White, Ronald Provides students with an understanding of how the risk sciences are applied in the formulation and implementation of public health policy in "the real world." Utilizes a case-study approach in placing science-based risk assessment into broad societal context, which includes consideration of social, economic, and political factors that affect decisions regarding risk policy and management. In addition, students gain an overview of public policy development theory, risk management tools and the application of risk communication principles. Email: rwhite@jhsph.edu Lecture: M W 5:00 - 6:30 Enrollment minimum of 10 Enrollment maximum of 30 <b>Consent of instructor required</b> <b>Prerequisite:</b> 317.600 Jointly offered with EHS, Epi</p>
<p><b>313.641.01 HEALTH ECONOMICS</b> (4 units) Frick, Kevin Introduces students to the application of economic tools to the analysis of the interaction among the many stakeholders in the health care system and the public health system. Uses a standard medical care economics text as the main reference guide; also draws on a combination of other texts that either use economic tools to draw contrasting conclusions, or that consider the economics of issues related more directly to public health topics. Email: kfrick@jhsph.edu Lecture: T Th 3:30 - 5:20 Enrollment minimum of 12 <b>Prerequisite:</b> 313.642 1st term or permission of instructor Jointly offered with IH There is a weekly "optional lab" during which the teaching assistant will work through problems with the students so that students are able to keep up with the material being covered.</p>	

## International Health

**Please check extradepartmental listing for courses in individual departments.**

<p><b>220.800.01</b></p>	<p><b>MPH CAPSTONE INTERNATIONAL HEALTH</b> (2 units) Departmental Faculty The MPH Capstone is an opportunity for students to work on public health practice projects that are of particular interest to them. The goal is for students to apply the skills and competencies they have acquired to a public health problem that simulates a professional practice experience. Lecture: TBA <b>Pass/fail only</b> <b>Consent of instructor required</b> Consent from the Capstone Supervisor is Required <b>Prerequisite:</b> All other MPH core requirements must be taken before or concurrently with the capstone project. Registration for this 2-credit course is required during the term that an MPH student completes the capstone project (e.g., 4th term for a full-time MPH student).</p>	<p><b>221.627.01</b></p>	<p><b>ISSUES IN MATERNAL MORTALITY REDUCTION IN DEVELOPING COUNTRIES</b> (4 units) Stanton, Cynthia and Mullany, Luke Reviews fundamental components of strategies for the reduction of maternal mortality and disease. Topics include reviews of clinical basis of maternal complications, maternal mortality measurement, community-level interventions, behavior change interventions, use of traditional birth attendants and program planning, monitoring and evaluation. Emphasis is on the current strategies believed to be effective, and review of previous strategies. Email: cstanton@jhsph.edu Lecture: M W 3:30 - 5:20 Enrollment minimum of 6 Restricted to graduate students. Jointly offered with PFHS</p>
<p><b>220.810.01</b></p>	<p><b>FIELD PLACEMENT DRPH PROGRAM INTERNATIONAL HEALTH</b></p>	<p><b>221.629.01</b></p>	<p><b>WATER AND SANITATION NEEDS IN COMPLEX HUMANITARIAN EMERGENCIES</b> (2 units) Doocy, Shannon Presents an overview of the influence of water, sanitation, and environmental factors on human health in emergency contexts. Addresses needs assessments and considerations in camp planning for displaced populations in addition to hygiene promotion and water and sanitation systems in emergency settings. Email: sdoocy@jhsph.edu Lecture: Th 1:30 - 3:20 Enrollment minimum of 10</p>
<p><b>220.820.01</b></p>	<p><b>THESIS RESEARCH DRPH PROGRAM INTERNATIONAL HEALTH</b></p>	<p><b>221.639.01</b></p>	<p><b>REFUGEE HEALTH CARE</b> (3 units) Burnham, Gilbert Addresses provision of basic health requirements for refugees and coordination of care among agencies concerned with them. Topics include epidemiologic assessment and control of communicable disease; nutrition and environmental sanitation; logistical support; and resettlement issues. Students or guest speakers present topics for group discussion. Lecture: M W 5:00 - 6:30 Enrollment minimum of 10 Enrollment maximum of 72</p>
<p><b>220.840.01</b></p>	<p><b>SPECIAL STUDIES AND RESEARCH DRPH PROGRAM INTERNATIONAL HEALTH</b></p>		
<p><b>220.895.01</b></p>	<p><b>MPH PRACTICUM: INTERNATIONAL HEALTH</b> (variable units) The MPH Practicum is a mentored, hands-on practical public health experience, which involves meaningful participation and interaction with public health professionals. <b>Pass/fail only</b> <b>Consent of instructor required</b> Student must receive faculty advisor approval</p>		
<p><b>221.612.01</b></p>	<p><b>CONFRONTING THE BURDEN OF INJURIES:A GLOBAL PERSPECTIVE</b> (3 units) Hyder, Adnan Provides an understanding of approaches to measuring the burden of injuries around the world and familiarizes students with current estimates of the burden of injuries in the global and developing world. Develops basic skills for assessment of injury epidemiology. Provides an appreciation of how to use these measures for planning interventions for injury prevention and creates awareness of the economic implications of injuries in the developing world. Promotes effective use of data for appropriate policy analysis for reduction of injury burden. Lecture: T Th 3:30 - 4:50 <b>Prerequisite:</b> 340.601; recommended 305.610 Jointly offered with HPM</p>		
<p><b>221.614.01</b></p>	<p><b>INTERNATIONAL POLITICAL SCIENCE FOR PH PRACTITIONERS</b> (2 units) Burnham, Gilbert Provides a basic understanding of structures of authority and power; economics and political systems; role and limits of international organizations in development; current concepts of development and the political process; state collapse; and the origins of conflicts. Focus is on developing countries. Compares regional political trends and forces in Asia, Africa, Latin America, and the former Soviet bloc that affect health of populations and development of health services. Email: knuamah@jhsph.edu Lecture: T 1:30 - 3:20</p>		

Please check extradepartmental listing for courses in individual departments.

**221.646.01 HEALTH SYSTEMS IN LOW AND MIDDLE INCOME COUNTRIES**  
(3 units)  
Rahman, M. Hafizur  
Explores health systems in low and middle income countries (LMICs), and examines approaches to improving the performance of health systems. Focuses on frameworks, tools, skills, and strategies to understand, influence, and evaluate health systems in LMICs. Identifies key institutions, functions, and performance issues for national and local health systems. By using frameworks and tools, students gain experience in systematically analyzing health systems and methods to plan, implement, and evaluate changes in health systems in a variety of settings, including countries in various levels of demographic, epidemiologic and economic transitions. Covers key controversies in health systems, including issues in monitoring health systems performance, the role of the public sector, dealing with unregulated private health markets, linking priority health programs and health systems, raising accountability in the health system, etc.  
Lecture: M W 1:30 - 2:50  
Enrollment maximum of 45  
**Consent of instructor required**  
Instructor consent required for students not in the Health Systems program.  
**Prerequisite:** 220.601, Introduction to International Health

**221.810.01 FIELD PLACEMENT HEALTH SYSTEMS**

**221.820.01 THESIS RESEARCH HEALTH SYSTEMS**

**221.830.01 POSTDOCTORAL RESEARCH HEALTH SYSTEMS**

**221.840.01 SPECIAL STUDIES AND RESEARCH HEALTH SYSTEMS**

**221.860.01 HEALTH SYSTEMS PROGRAM SEMINAR**  
(1 unit)  
Lefevre, Amnesty  
Health Systems Program faculty present ongoing activities and doctoral students present their research interests and findings. The seminar may be used occasionally for administrative or academic matters.  
Email: [jpinderh@jhsph.edu](mailto:jpinderh@jhsph.edu)  
Lecture: T 12:00 - 1:20  
**Pass/fail only**  
**Consent of instructor required**

**222.642.01 ASSESSMENT OF NUTRITIONAL STATUS**  
(3 units)  
Schulze, Kerry  
Provides hands-on experience in anthropometric, biochemical, and dietary nutrition assessment techniques of individuals and populations. Laboratory exercises include the measurement of body composition, use of food composition tables, and classification of nutritional status. Student evaluation based on laboratory exercises and class participation.  
Email: [kschulze@jhsph.edu](mailto:kschulze@jhsph.edu)  
Lecture: T Th 8:30 - 9:50

**222.644.01 NUTRITIONAL BIOCHEMISTRY**  
(3 units)  
De Luca, Luigi  
Students learn biochemical processes, such as DNA, RNA and protein synthesis with particular emphasis on the function of essential nutrients in these processes. Covers nutritionally important aspects of carbohydrate and fat metabolism, mineral and vitamin function, and introduces essential concepts of molecular biology, such as PCR reactions and nucleic acid restriction enzymes and their use in biochemistry and molecular biology. Also includes concepts of gene knockin and knockout and their consequences. These are compared to the consequences of nutrient deficiency and excess to give the nutrition student a full appreciation of the relevance of nutritional biochemistry studies and approaches to those of molecular biology. Emphasizes the importance of nutritional management and prevention of different diseases like cardiovascular, obesity, osteoporosis, etc. Also teaches the important interplay between essential nutrients and the synthesis of various hormones.  
Lecture: T Th 1:30 - 2:50

**222.659.01 CRITICAL THINKING IN NUTRITION II**  
(1 unit)  
Cheskin, Lawrence  
Introduces graduate students of nutrition to the seminal literature in the field. Teaches students how to interpret and evaluate literature, and foster discussion and debate among students and faculty on current issues. Faculty selects seminal papers and participates in the discussion. Students are expected to read each paper as well as discuss and explain the methods and results in class.  
Lecture: T 3:30 - 4:20  
Enrollment minimum of 2  
Enrollment maximum of 20  
limited to PhD students and master's students  
**Consent of instructor required**  
Consent required if 222.658 was not completed.  
**Prerequisite:** 222.658

**Please check extradepartmental listing for courses in individual departments.**

<p><b>222.660.01</b></p>	<p><b>ADVANCED NUTRITIONAL EPIDEMIOLOGY</b> (3 units) Wang, Youfa Addresses methodological aspects of nutritional epidemiologic research with a focus on analytical quantitative methods. Covers the main principles and quantitative research methods such as measurement errors and remedies, energy adjustment, and statistical analysis approaches. Teaches the skills and techniques to study dietary patterns, dietary quality, nutritional status, growth, agreement between assessments, and health outcomes. Key analysis approaches for studying the relationship between nutrition and health outcomes include factorial analysis, growth curve models, regression analysis, and mixed models. Addresses nutrition- and health-related questions using existing national and international nutrition-related survey data sets. Students gain a comprehensive and in-depth understanding of the main issues covered. Students also gain hands-on experience in data analysis, and presenting and interpreting research findings through working on real data sets in lab sessions and assignments. Lecture: T Th 3:30 - 4:50 Lab: TBA Enrollment minimum of 5 Enrollment maximum of 25 see prerequisites <b>Consent of instructor required</b> Students need consent if they have not fulfilled the prerequisites. <b>Prerequisite:</b> Introductory courses on nutrition, biostatistics, and epidemiology (e.g., 222.641 or 222.642, 340.601 or 340.751, 140.621 or 140.651, and 222.647) or consent of instructor.</p>	<p><b>222.861.01</b></p>	<p><b>DOCTORAL SEMINAR IN PROPOSAL DEVELOPMENT</b> (1 unit) Caulfield, Laura Facilitates doctoral students in the development of research ideas and their dissertation proposals. Topics will vary by term but will include the following: how to develop a research idea, and components of a solid research proposal – background, design, methods, sample size, analysis, writing to different audiences, research designs in nutrition, ethical review, funding sources and requirements, budgeting, staff management, thesis and manuscript preparation, and professional development. Lecture: TBA doctoral students only <b>Pass/fail only</b></p>
		<p><b>223.662.01</b></p>	<p><b>VACCINE DEVELOPMENT AND APPLICATION</b> (3 units) Halsey, Neal Reviews the processes used to evaluate all aspects of vaccine development and the use of immunizations for disease prevention. Emphasizes in-depth understanding of vaccines successfully introduced into routine immunization schedules. Discusses procedures and oversight at each step in the process, including post-licensure policy making and monitoring for safety and effectiveness. Lecture: T Th 5:00 - 6:30 Restricted to graduate students.</p>
		<p><b>223.810.01</b></p>	<p><b>FIELD PLACEMENT DISEASE CONTROL</b></p>
		<p><b>223.820.01</b></p>	<p><b>THESIS RESEARCH DISEASE CONTROL</b></p>
		<p><b>223.830.01</b></p>	<p><b>POSTDOCTORAL RESEARCH DISEASE CONTROL</b></p>
<p><b>222.810.01</b></p>	<p><b>FIELD PLACEMENT HUMAN NUTRITION</b></p>	<p><b>223.840.01</b></p>	<p><b>SPECIAL STUDIES AND RESEARCH DISEASE CONTROL</b></p>
<p><b>222.820.01</b></p>	<p><b>THESIS RESEARCH HUMAN NUTRITION</b></p>	<p><b>223.860.01</b></p>	<p><b>GLOBAL DISEASE EPIDEMIOLOGY AND CONTROL PROGRAM SEMINAR</b> (1 unit) Charron, Karen Disease Prevention and Control faculty present ongoing research and program activities and doctoral students present their research interests and findings. Seminar may be used occasionally for administrative or academic matters. Lecture: T 12:00 - 1:20 Restricted to Disease Prevention and Control doctoral and MHS students. <b>Pass/fail only</b> <b>Consent of instructor required</b></p>
<p><b>222.830.01</b></p>	<p><b>POSTDOCTORAL RESEARCH HUMAN NUTRITION</b></p>	<p><b>223.861.01</b></p>	<p><b>GLOBAL DISEASE EPIDEMIOLOGY AND CONTROL PROGRAM DOCTORAL SEMINAR</b> (1 unit) Moulton, Lawrence Strengthens research skills through critical appraisal of published research results and preparation of research protocols or projects. All DPC doctoral students enroll in this course for four terms. Lecture: W 12:00 - 1:20 IH doctoral students <b>Pass/fail only</b> <b>Prerequisite:</b> None</p>
<p><b>222.840.01</b></p>	<p><b>SPECIAL STUDIES AND RESEARCH HUMAN NUTRITION</b></p>		
<p><b>222.860.01</b></p>	<p><b>GRADUATE NUTRITION SEMINAR</b> (1 unit) Mehra, Sucheta Exposes students to the breadth of interests represented by the Nutrition faculty at the School and from other universities and related organizations such as the US Department of Agriculture (USDA) and National Institutes of Health (NIH) through active listening and discussion of the presentations. Specific topics vary over time. Emphasizes the ability to critically evaluate the related research design, approaches and findings, and presentation skills. Email: smehra@jhsph.edu Lecture: Th 12:15 - 1:15 <b>Pass/fail only</b> <b>Consent of instructor required</b></p>		

Please check extradepartmental listing for courses in individual departments.

**223.867.01 SPECIAL TOPICS IN VACCINE SCIENCE**  
(1 unit)  
Durbin, Anna  
Year-long series of bi-weekly seminars (total 16 seminars, 4 per term) on vaccine research against infectious diseases of global importance including AIDS, tuberculosis, malaria, childhood illnesses, and many others. Economic, political, and ethical dimensions of vaccine R&D are also covered. Seminars are presented by leading vaccine experts at JHU and other institutions. Series provides the student with an understanding of the pathways leading to development and utilization of vaccines with public health impact.  
Email: adurbin@jhsph.edu  
Lecture: W 5:00 - 6:30  
**Pass/fail only**

**224.689.01 HEALTH BEHAVIOR CHANGE AT THE INDIVIDUAL, HOUSEHOLD AND COMMUNITY LEVELS**  
(4 units)  
Winch, Peter  
Provides students with conceptual tools to analyze health-related behaviors and the social, cultural and environmental context in which they occur. Applies concepts and theories drawn from medical anthropology, psychology and sociology to programmatic examples from Latin America, Africa and Asia concerning care-seeking, treatment of sick children, insecticide-treated mosquito nets, voluntary counseling and testing, sexual risk behaviors, intimate partner violence and other behavior change challenges in public health.  
Email: pwinch@jhsph.edu  
Lecture: T Th 8:30 - 10:20  
Enrollment minimum of 5  
No enrollment restrictions

**224.810.01 FIELD PLACEMENT SOCIAL AND BEHAVIORAL INTERVENTIONS**

**224.820.01 THESIS RESEARCH SOCIAL AND BEHAVIORAL INTERVENTIONS**

**224.830.01 POSTDOCTORAL RESEARCH SOCIAL AND BEHAVIORAL INTERVENTIONS**

**224.840.01 SPECIAL STUDIES AND RESEARCH SOCIAL AND BEHAVIORAL INTERVENTIONS**

**224.861.01 SOCIAL AND BEHAVIORAL INTERVENTIONS PROGRAM SEMINAR II: STRUCTURED METHODS IN QUALITATIVE RESEARCH**  
(1 unit)  
Gittelsohn, Joel  
After a brief overview of the field of qualitative research, each class session addresses a different structured method commonly employed when qualitative research is conducted to develop or evaluate a public health intervention. Methods covered include structured observation (continuous observation and spot checks, for the assessment of nutritional or hygiene behaviors, for example, or mosquito net surveys), card sorting (pile sorting), triadic comparisons, paired comparisons, rating and ranking.  
Lecture: M 12:00 - 1:20  
Enrollment minimum of 5  
Enrollment maximum of 25  
SBI MHS and SBI PhD students  
**Pass/fail only**  
**Prerequisite:** None

**224.864.01 DOCTORAL SEMINAR IN RESEARCH METHODS IN APPLIED MEDICAL ANTHROPOLOGY II**  
(4 units)  
Winch, Peter  
Discusses methods for collecting and analyzing qualitative data; quantifying ethnomedical beliefs; and integrating qualitative and quantitative methods. Topics include cultural consensus analysis, scale development and testing, multi-dimensional scaling, analysis of structured observation data, development of manuals for qualitative data collection, and the use of social science data in the design of public health interventions.  
Email: pwinch@jhsph.edu  
Lecture: TBA  
Enrollment minimum of 5  
Enrollment maximum of 15  
**Consent of instructor required**  
**Prerequisite:** 224.690 and 224.691 or equivalent

## Mental Health

**330.603.01 PSYCHIATRIC EPIDEMIOLOGY**  
(3 units)  
Eaton, William  
Presents the epidemiology of childhood mental disorders and late life dementias, mood and anxiety disorders, schizophrenia, and other disturbances of brain function and mental life. Examines operational case definitions, measurement techniques, and sampling strategies to enhance field surveys and risk factor research. Intended for clinical or public health practitioners and administrators acquainted with these illnesses, and specialists in other fields.  
Email: weaton@jhsph.edu  
Lecture: M W 1:30 - 2:50  
Enrollment minimum of 10  
Jointly offered with Epi

**330.620.01 ISSUES IN MENTAL HEALTH RESEARCH IN DEVELOPING COUNTRIES**  
(3 units)  
Bass, Judy  
Introduces mental health as an integral part of global health research, including conducting needs assessments and intervention monitoring and evaluation. Presents and critiques strategies for integrating local cultural perspectives into research models. Examines methods of adapting psychiatric assessment tools for use cross-culturally and presents challenges for developing interventions for use in low-resource contexts. Encourages use of critical and creative thinking skills throughout to discuss the issues involved in this relatively new area of study.  
Lecture: T Th 3:30 - 4:50  
Enrollment minimum of 10  
Enrollment maximum of 25  
Course restricted to graduate students only  
**Consent of instructor required**  
submit a short paragraph of interest, including degree program, to instructor  
**Prerequisite:** 340.601.01 PRINCIPLES OF EPIDEMIOLOGY or 340.751.01 EPIDEMIOLOGIC METHODS 1 or permission of instructor

**Please check extradepartmental listing for courses in individual departments.**

**330.641.01 PREVENTION AND CONTROL OF ALCOHOL AND DRUG ABUSE**  
(3 units)  
Mandell, Wallace  
Introduces public health responses to health problems associated with the use of alcohol, tobacco, and other psychoactive drugs. Examines the uses of public health data as a basis for public health policy, the selection of target populations, location of prevention and treatment programs, and the evaluation of program efficacy and effectiveness. Speakers present representative programs for prevention and control of ATOD public health problems.  
Email: wmandell@jhsph.edu  
Lecture: T Th 3:00 - 4:20  
Enrollment minimum of 10  
**Consent of instructor required**  
Consent required of undergraduates  
Course is held in departmental space.

**330.652.01 SEMINAR ON PROGRAM PLANNING IN DEVELOPING COUNTRIES ON DRUG ABUSE AND OTHER HEALTH PROBLEMS II**  
(3 units)  
Mandell, Wallace and Latimer, William W.  
Reviews the scientific, social and political issues involved in resource allocation for programs to prevent and control drug abuse and other emergent public health problems in developing countries. Examines examples of major prevention program types, such as mass media awareness programs, school based programs, community outreach networking programs, and public treatment programs. Students make presentations analyzing the extent of a selected health problem, and the types, volume and resources allocated to mitigating the problem.  
Email: wmandell@jhsph.edu  
Lecture: T Th 3:30 - 5:20  
Enrollment minimum of 10  
Must be a Humphrey Fellows in drug abuse or have consent of instructor.  
**Consent of instructor required**  
Students not in Humphrey Fellows Program.  
Course is held in departmental space.

**330.655.01 FIELD VISITS IN DRUG ABUSE AND HEALTH PROGRAM PLANNING.**  
(2 units)  
Mandell, Wallace and Latimer, William W.  
Students visit local, state and federal agencies and programs engaged in health and drug abuse risk factor/reduction through prevention, treatment, research and policy implementation programs. Visits are intended to deepen understanding of the array of program models for the prevention and control of public health and drug abuse risk factors that exist in the U.S.  
Lecture: TBA  
Enrollment minimum of 10  
Enrollment maximum of 15  
Must be a Humphrey Fellow in Drug Abuse or have consent of instructor  
**Consent of instructor required**  
Consent required of undergraduates

**330.660.01 SEMINAR ON METHODS IN PUBLIC MENTAL HEALTH RESEARCH**  
(3 units)  
Leaf, Philip  
Targets the development of effective research strategies in public mental health, including the identification of research questions, study design, and analytic approaches. Discusses important epidemiologic studies of major psychiatric disorders, such as sample selection, measurement, and analytic strategies. Reviews strengths and weaknesses of these studies and considers recent advances in epidemiologic and statistical methods as alternative approaches for addressing research questions. Also discusses advantages and disadvantages of longitudinal, cross-sectional, and multistage research designs.  
Email: mhdept@jhsph.edu  
Lecture: T Th 3:30 - 4:50  
Enrollment minimum of 10  
**Prerequisite:** 340.601-604; 140.621-624; or consent of instructor

**330.800.01 MPH CAPSTONE MENTAL HEALTH**  
(2 units)  
Departmental Faculty  
The MPH Capstone is an opportunity for students to work on public health practice projects that are of particular interest to them. The goal is for students to apply the skills and competencies they have acquired to a public health problem that simulates a professional practice experience.  
**Pass/fail only**  
**Consent of instructor required**  
Consent from the Capstone Supervisor is Required.  
**Prerequisite:** All other MPH core requirements must be taken before or concurrently with the capstone project.  
Registration for this 2-credit course is required during the term that an MPH student completes the capstone project (e.g., 4th term for a full-time MPH student).

Please check extradepartmental listing for courses in individual departments.

**330.802.01 SEMINAR ON AGING, COGNITION AND NEURODEGENERATIVE DISORDERS**  
(2 units)  
Rebok, George  
Addresses age-related cognitive and neuropsychiatric disorders that are of particular importance with the rapid expansion of the aging population. Focuses on the major domains of cognition and comparison of the age-related changes that occur in each cognitive domain. Includes emphasis on contrasting the major neurodegenerative disorders related to age and describing the clinical presentation and pattern of cognitive change in each condition. Participants address current strategies for maximizing cognitive function with age and treatment strategies for the primary neurodegenerative disorders. Participants examine and identify gaps in knowledge and research approaches to fill these gaps. Explores concepts of cognitive systems, animal and imaging models, and selective pathological change with age and disease.  
Email: camardella@jhu.edu  
Lecture: Th 3:30 - 5:20  
Enrollment minimum of 5  
Enrollment maximum of 12  
**Pass/fail only**  
**Consent of instructor required**  
Consent required for undergraduate students only.  
Predoctoral and Postdoctoral students from A&S, SPH and Medicine students participating in training grant on age-related, cognitive and neuropsychiatric disorders.

**330.820.01 THESIS RESEARCH MENTAL HEALTH**

**330.830.01 POSTDOCTORAL RESEARCH MENTAL HEALTH**

**330.840.01 SPECIAL STUDIES AND RESEARCH MENTAL HEALTH**

**330.895.01 MPH PRACTICUM: MENTAL HEALTH**

(variable units)

Departmental Faculty

The MPH Practicum is a mentored, hands-on practical public health experience, which involves meaningful participation and interaction with public health professionals.

**Pass/fail only**

**260.612.01 PRINCIPLES OF IMMUNOLOGY II**

(4 units)

Scott, Alan

Introduces biological concepts of immunology; molecular nature of antigens; molecular basis for antibody and T-cell receptor structure and diversity; complement; hypersensitivity reactions; cellular basis for the immune response; cell-mediated immunity; adhesion molecules and coreceptors cell activation; cytokines and other soluble mediators; major histocompatibility complex (MHC) antigens; tumor immunology; transplantation immunobiology; mechanisms of resistance to microorganisms; tolerance; autoimmunity; and immuno-deficiency.

Email: ascott@jhsph.edu

Lecture: T Th 8:30 - 10:20

**Prerequisite:** 260.611

Required for MMI students.

**260.627.01 PATHOGENESIS OF BACTERIAL INFECTIONS**

(4 units)

Zhang, Ying and Markham, Richard

Presents the mechanism employed by bacteria to establish and maintain infection in the human host and evolution of host resistance mechanisms. Covers host-parasite relationship, bacterial structure and metabolism, pathogenic mechanisms of bacteria, systemic and mucosal immunity, and gram-negative and gram-positive bacteria. Discussions generally cover gram-negative and gram-positive bacteria with specific lectures on pathogens of particular interest, such as mycobacteria, Borrelia, rickettsia, and bacteria associated with sexually transmitted diseases.

Lecture: M W F 10:30 - 11:50

Required for MMI students.

**260.631.01 IMMUNOLOGY, INFECTION AND DISEASE**

(3 units)

Scott, Alan

Presents the fundamental cellular, molecular and genetic mechanisms that initiate and control immune responses elicited during pathogen challenge and vaccination.

Lecture: T Th 3:30 - 4:50

Enrollment minimum of 5

**260.652.01 PRINCIPLES OF PUBLIC HEALTH ECOLOGY**

(4 units)

Glass, Gregory and Norris, Douglas

Applies basic principles of ecology to public health, focusing on factors related to population growth and regulation and the impacts of behavior, genetics, and evolution on disease patterns. Examines the effects of population processes on disease control by vaccination, chemotherapies, and vector control.

Email: ggurigl@jhsph.edu

Lecture: T Th 1:30 - 3:20

Enrollment minimum of 8

**Consent of instructor required**

**Prerequisite:** A course in advanced biology

Required for MMI students.

## Molecular Microbiology and Immunology

**260.605.01 GENOMICS**

(4 units)

Pevsner, Jonathan

Explores genomes across the tree of life, using the tools of bioinformatics. Topics include viruses; bacteria and archaea; protozoa (e.g. Plasmodium); plants (with a focus on Arabidopsis and rice); the fungi; the metazoans (Drosophila, C. elegans, the rodents, the primates, and human). Each lecture highlights features of the relevant genome(s), key websites and bioinformatics tools, the phylogenetic context in which to understand the significance of the organism, and genomics-based approaches to human disease. Weekly computer labs introduce students to genomics software available on the internet, including tools for genome annotation, comparison, and analysis.

Lecture: M W 10:30 - 11:50

Lab: F 10:30 - 11:50

Enrollment minimum of 10

Enrollment maximum of 60

**Please check extradepartmental listing for courses in individual departments.**

**260.800.01 MPH CAPSTONE MOLECULAR MICROBIOLOGY AND IMMUNOLOGY**  
(2 units)  
Departmental Faculty  
The MPH Capstone is an opportunity for students to work on public health practice projects that are of particular interest to them. The goal is for students to apply the skills and competencies they have acquired to a public health problem that simulates a professional practice experience.  
Lecture: TBA  
**Pass/fail only**  
**Consent of instructor required**  
Consent from the Capstone Supervisor is Required  
**Prerequisite:** All other MPH core requirements must be taken before or concurrently with the capstone project.  
Registration for this 2-credit course is required during the term that an MPH student completes the capstone project (e.g., 4th term for a full-time MPH student).

**260.802.01 TOPICS IN IMMUNOLOGY II**  
(1 unit)  
Scott, Alan  
Employs a journal club presentation/discussion format to explore advanced topics in basic immunology, the tenants of experimental design in immunology and the theory and practice of immunological methods. This is the core discussion class for 260.611-.612.  
Email: ascott@jhsph.edu  
Lecture: T 10:30 - 11:50  
**Consent of instructor required**  
**Prerequisite:** Restricted to ScM and PhD graduate students in MMI.  
This is the core discussion course for 260.611-.612; grades submitted at end of 2nd term.

**260.810.01 FIELD PLACEMENT MOLECULAR MICROBIOLOGY AND IMMUNOLOGY**

**260.820.01 THESIS RESEARCH MOLECULAR MICROBIOLOGY AND IMMUNOLOGY**

**260.821.01 RESEARCH FORUM IN MOLECULAR MICROBIOLOGY AND IMMUNOLOGY**  
(1 unit)  
Griffin, Diane  
Departmental students organize and present research findings, resulting from laboratory investigations or literature review, to faculty and fellow students. These oral reports consist of rationale and background of the working hypothesis, experimental design, presentation of results, and analysis in the context of the hypothesis. Usually, each student presents twice a year and weekly attendance is required.  
Lecture: M 12:00 - 1:20  
**Pass/fail only**  
Required for MMI students.

**260.822.01 SEMINARS IN RESEARCH IN MOLECULAR MICROBIOLOGY AND IMMUNOLOGY**  
(1 unit)  
Griffin, Diane  
Integrates academic training with current research in microbiology, immunology, and infectious diseases. Researchers from JHU and other biomedical research institutions present results of state of the art investigations of microbial diseases of public health significance, emphasizing experimental design and methodology for analysis and discussion.  
Lecture: Th 12:05 - 1:05  
**Pass/fail only**  
Required for MMI students.

**260.830.01 POSTDOCTORAL RESEARCH MOLECULAR MICROBIOLOGY AND IMMUNOLOGY**

**260.840.01 SS/R: MOLECULAR MICROBIOLOGY AND IMMUNOLOGY**

**260.851.01 LABORATORY ROTATIONS**  
(4-8 units)  
Departmental Faculty  
All departmental Sc.M. and doctoral students spend two and three terms, respectively, participating in the research activities of departmental faculty's laboratories. Students select appropriate rotations in consultation with their academic advisors and the departmental Graduate Program Committee.  
Lecture: TBA  
**Pass/fail only**  
**Consent of instructor required**  
Consent of rotation supervisor required.  
Required for MMI students.

**260.854.01 CURRENT LITERATURE IN MICROBIAL IMMUNITY**  
(1 unit)  
Bream, Jay and Zavala, Fidel and Scott, Alan  
Reviews and discusses, in depth, current publications in the field of microbial immunity, with emphasis on the areas of innate/adaptive immunity, pathogenesis, and vaccination.  
Lecture: W 1:30 - 2:50  
Enrollment minimum of 5  
Enrollment maximum of 24  
**Prerequisite:** Principles of Immunology I  
This is distinct from a journal club in that students are graded on the depth and quality of their presentation and understanding of topics discussed.

**260.895.01 MPH PRACTICUM: MMI**  
(variable units)  
Departmental Faculty  
The MPH Practicum is a mentored, hands-on practical public health experience, which involves meaningful participation and interaction with public health professionals.  
**Pass/fail only**

## Population, Family and Reproductive Health

**Please check extradepartmental listing for courses in individual departments.**

<p><b>380.600.01 PRINCIPLES OF POPULATION CHANGE</b> (4 units) Astone, Nan Provides students with a basic understanding of the science of demography and health implications of major population issues in the contemporary world. Students explore population changes over time; elements of demography; child survival and mortality; family and households and demographic change; the demography of social and economic inequality, role of women, urbanization, migration and fertility. Finally, students examine world demographic patterns, synthesizing the data and issues surrounding the importance of population to public health. Lecture: M W F 1:30 - 2:50</p>	<p><b>380.642.01 CHILD HEALTH AND DEVELOPMENT</b> (3 units) Perry, Deborah Focuses on the core processes of growth and development in early to middle childhood. Considers developmental theories, issues and research findings related to physical growth and cognitive, emotional, and social development. Considers appropriate instruments to assess growth and development. Evaluates efficacy of popular early intervention programs designed to enhance development in at-risk populations of children. Lecture: M 3:30 - 6:20 Graduate Students Only</p>
<p><b>380.603.01 DEMOGRAPHIC METHODS FOR PUBLIC HEALTH</b> (4 units) Agree, Emily Prepares students to use demographic methods to address specific public health problems, identify and estimate populations at risk, and aid in forecasting health service needs, using a combination of lectures, labs, and case studies. Methods covered include population projections and period life tables. Lecture: T Th 3:30 - 4:50 Lab: TBA Enrollment minimum of 10 Enrollment maximum of 35 One hour Lab TBA</p>	<p><b>380.662.01 CRITIQUING THE RESEARCH LITERATURE IN MATERNAL, NEONATAL, AND REPRODUCTIVE HEALTH</b> (4 units) Strobino, Donna Discusses the sources of data and the analytic and conceptual basis for methodological approaches to the study of maternal, neonatal, and reproductive health. Critically evaluates selected research articles in maternal, neonatal, and reproductive health. Lecture: T Th 8:30 - 10:20 Enrollment minimum of 8 Enrollment maximum of 20</p>
<p><b>380.615.01 APPLICATION OF POPULATION DATA FOR POLICY AND PRACTICE</b> (3 units) Robinson, Courtland and Canudas-Romo, Vladimir Presents population-based extant data from both international and domestic data sets and policy/practice issues. Introduces application of population data to address policy and practice concerns to enable students to investigate the health of newborns, children, adolescents, women, men, immigrants and the elderly. Presents material in an interactive manner that allows students to acquire fundamental knowledge and familiarity of extant population-based data for future professional application. Lecture: M W 10:30 - 11:50 Enrollment minimum of 10 None <b>Prerequisite:</b> None</p>	<p><b>380.681.01 STRATEGIC LEADERSHIP PRINCIPLES AND TOOLS FOR HEALTH SYSTEM TRANSFORMATION IN DEVELOPING COUNTRIES</b> (4 units) Lozare, Benjamin and Mosley, Henry Introduces students to the principles of strategic leadership, placing these in the context of facilitating health systems change in developing countries. Covers the following topics: mental models and the household production of health, systems thinking and strategic leverage, personal mastery and commitment to change, action-learning principles and practice, shared vision and creative tension, the theory of constraints and root cause analysis, strategy design and key moves, implementation with accountability, and linking data to action. Develops leadership skills via interactive computer exercises using STARGuide software, small group work and class presentations. Lecture: Th 5:30 - 7:20 Enrollment minimum of 12 Enrollment maximum of 36 Masters and Doctoral students <b>Pass/fail only</b> <b>Consent of instructor required</b> Permission from instructor is required for this course.</p>
<p><b>380.624.01 MATERNAL AND CHILD HEALTH LEGISLATION AND PROGRAMS</b> (4 units) Grason, Holly and Minkovitz, Cynthia Analyzes the structure, organization, administration and management of social and health service programs serving the maternal and child health populations. Lectures, discussions, and analysis of current research and practice present the goals and impact of national programs such as Title V MCH/CSHCN, Medicaid/S-CHIP, early intervention, Family Planning, WIC/Nutrition, community/migrant health centers, child welfare, and of privately sponsored programs. Lecture: T Th 1:30 - 3:20 Enrollment minimum of 10</p>	

Please check extradepartmental listing for courses in individual departments.

<p><b>380.720.01</b>    <b>MASCULINITY, SEXUAL BEHAVIOR &amp; HEALTH: ADOLESCENCE &amp; BEYOND</b> (2 units) Marcell, Arik and Sonenstein, Freya Focuses on male adolescent health and sexual issues and explores the meaning of masculinity and the impact of masculine beliefs on men's health and health care use. Students critique the literature and explore methods to design interventions that work within a masculinity framework to improve men's health outcomes. Lecture: M 10:00 - 11:50 Enrollment minimum of 8 Enrollment maximum of 15 Course is held in departmental space.</p>	<p><b>380.850.01</b>    <b>RESEARCH SEMINAR IN POPULATION AND HEALTH</b> (2 units) Astone, Nan Provides a forum for doctoral students and faculty in population studies to engage in critical review and discussion of both recent research and selected research classics in demography and population. The seminar uses a journal-club format in which one or more papers are distributed in advance. Participants are expected to read and discuss the assigned material. The seminar meets once every two weeks in the first, third, and fourth terms. Attendance is required of all first- and second-year PFHS doctoral students and encouraged for third-year students and above. Email: lferrett@jhsph.edu Lecture: Th 4:00 - 5:20 PFRH Department Students Only <b>Consent of instructor required</b> Consent required for non-PFRH students</p>
<p><b>380.800.01</b>    <b>MPH CAPSTONE POPULATION, FAMILY AND REPRODUCTIVE HEALTH</b> (2 units) Departmental Faculty The MPH Capstone is an opportunity for students to work on public health practice projects that are of particular interest to them. The goal is for students to apply the skills and competencies they have acquired to a public health problem that simulates a professional practice experience. <b>Pass/fail only</b> <b>Consent of instructor required</b> Consent from the Capstone Supervisor is Required <b>Prerequisite:</b> All other MPH core requirements must be taken before or concurrently with the capstone project. Registration for this 2-credit course is required during the term that an MPH student completes the capstone project (e.g., 4th term for a full-time MPH student).</p>	<p><b>380.861.01</b>    <b>RESEARCH SEMINAR IN REPRODUCTIVE, PERINATAL, AND WOMENS HEALTH</b> (2 units) Strobino, Donna and Tsui, Amy A seminar format is used to discuss seminal articles in reproductive, perinatal, and womens health. In depth discussions of questions related to one or more research articles in the field are used to develop critical analytic skills of students. Lecture: TBA PFRH Department Students Only <b>Pass/fail only</b></p>
<p><b>380.810.01</b>    <b>FIELD PLACEMENT POPULATION, FAMILY AND REPRODUCTIVE HEALTH</b></p>	<p><b>380.863.01</b>    <b>RESEARCH SEMINAR IN CHILD HEALTH AND DEVELOPMENT</b> (1 unit) Riley, Anne Provides experience in analytic evaluation of contemporary research regarding infant, child, and adolescent health, growth, and development across a range of academic disciplines and issues. Students and faculty critique and discuss empirical articles and examine their historical, methodological, and disciplinary perspectives. Highlights current controversies. Required for 2nd-year and above doctoral students in Child Health and Development track. Email: ariley@jhsph.edu PFRH Department Students Only <b>Pass/fail only</b> <b>Consent of instructor required</b> Consent required for non-PFRH students</p>
<p><b>380.820.01</b>    <b>THESIS RESEARCH POPULATION, FAMILY AND REPRODUCTIVE HEALTH</b></p>	<p><b>380.870.01</b>    <b>PFRH SPECIAL STUDIES IN PUBLIC HEALTH PRACTICE</b> (variable units) Provides students with the opportunity to receive academic credit for direct involvement in public health practice activities such as: on-site placement with a public health agency, community organization, or academic center involving active participation in public health practice activities; Development of public health practice or policy recommendations based upon current research findings (translation); advocacy activities, for example, testifying in the legislature, and presenting data for the purpose of influencing public health policy or practice; preparation and conduct of a presentation related to a public health problem for a broad audience, including public health practitioners, community members, and other professionals; and direct participation in the activities of community boards or advisory groups. <b>Pass/fail only</b></p>
<p><b>380.821.01</b>    <b>PFRH PROPOSAL WRITING SEMINAR</b> (2 units) Hindin, Michelle Explores the process of developing a dissertation proposal to prepare PFRH students for departmental and preliminary oral exams. Covers the nuts and bolts of writing a proposal from developing a research question through completing a timeline and obtaining IRB approval. Combines readings and student presentations as well as occasional guest lectures. Intended only for students in the department of Population, Family and Reproductive Health. Lecture: TBA Enrollment minimum of 1 PFRH Doctoral Students only <b>Pass/fail only</b> <b>Prerequisite:</b> Must be PFRH Doctoral Student; must have completed second year comprehensive exams.</p>	
<p><b>380.830.01</b>    <b>POSTDOCTORAL RESEARCH POPULATION, FAMILY AND REPRODUCTIVE HEALTH</b></p>	
<p><b>380.840.01</b>    <b>SPECIAL STUDIES AND RESEARCH POPULATION, FAMILY AND REPRODUCTIVE HEALTH</b></p>	

Please check extradepartmental listing for courses in individual departments.

**380.895.01 MPH PRACTICUM: PFRH**  
(variable units)  
Departmental Faculty  
The MPH Practicum is a mentored, hands-on practical public health experience, which involves meaningful participation and interaction with public health professionals.  
**Pass/fail only**

**187.610.81 PUBLIC HEALTH TOXICOLOGY**  
(4 units)  
Yager, James and Trush, Michael  
Examines basic concepts of toxicology as they apply to environmental toxicology. Discusses distribution, cellular penetration, metabolic conversion, and elimination of toxic agents, as well as the fundamental laws governing the interaction of foreign chemicals with biological systems. Focuses on the application of these concepts to the understanding and prevention of mortality and morbidity resulting from environmental exposure to toxic substances through a case study format.  
**Prerequisite:** Introduction to Online Learning; a background in chemistry (particularly organic chemistry) and biology is useful.

## DISTANCE EDUCATION

Distance Education courses must have consent of instructor to be taken as audit. All students must complete the Introduction to Online Learning course prior to enrolling in any distance education course. Students can find information about the course, course dates, and directions for registration, at the course website:  
<http://distance.jhsph.edu/oll/>

**140.612.81 STATISTICAL REASONING IN PUBLIC HEALTH II**  
(3 units)  
McGready, John  
Provides a broad overview of biostatistical methods and concepts used in the public health sciences, emphasizing interpretation and concepts rather than calculations or mathematical details. Develops ability to read the scientific literature to critically evaluate study designs and methods of data analysis. Introduces basic concepts of statistical inference, including hypothesis testing, p-values, and confidence intervals. Topics include comparisons of means and proportions; the normal distribution; regression and correlation; confounding; concepts of study design, including randomization, sample size, and power considerations; logistic regression; and an overview of some methods in survival analysis. Draws examples of the use and abuse of statistical methods from the current biomedical literature.  
**Prerequisite:** Introduction to Online Learning.

**340.619.81 GLOBAL TOBACCO CONTROL**  
(3 units)  
Stillman, Frances A.  
Provides an introduction to global tobacco control. Presents the health and economic burden of tobacco use worldwide and highlights practical approaches to tobacco prevention, control, surveillance, and evaluation. Examines transnational tobacco control issues, including the following: the interpretation and packaging of epidemiologic evidence for policy makers, the determinants of tobacco addiction, the economics of global tobacco control, tobacco industry strategies, legal foundations for regulation, and basic surveillance and evaluation methods using lectures, case-studies, and discussion.  
**Prerequisite:** Introduction to Online Learning

**180.620.81 FOOD PRODUCTION, PUBLIC HEALTH, AND THE ENVIRONMENT**  
(4 units)  
Walker, Polly and Lawrence, Robert  
Provides an overview of the complex and challenging public health issue of food security (sufficient, safe and nutritious food for all) in a world where one billion people are under-nourished while another billion are overweight. Explores the connections among diet, the current food and food animal production system, the environment and public health, considering factors such as economics, population and equity. Focuses on the U.S. experience, but also uses case studies in the U.S. and internationally to illustrate the issues discussed. Considers alternative approaches to achieving both local and global food security. Explores the important role public health professionals can play. Guest lecturers include experts from a variety of disciplines and experiences.  
**Consent of instructor required**  
Consent required for those not matriculated into a JHSPH graduate program.  
**Prerequisite:** Introduction to Online Learning

**340.627.81 EPIDEMIOLOGY OF INFECTIOUS DISEASES**  
(4 units)  
Nelson, Kenrad  
Introduces the basic methods for infectious disease epidemiology and case studies of important disease syndromes and entities. Methods include definitions and nomenclature, outbreak investigations, disease surveillance, case-control studies, cohort studies, laboratory diagnosis, molecular epidemiology, dynamics of transmission, and assessment of vaccine field effectiveness. Case-studies focus on acute respiratory infections, diarrheal diseases, hepatitis, HIV, tuberculosis, sexually transmitted diseases, malaria, and other vector-borne diseases.  
**Prerequisite:** 340.751 or 340.601; 140.621; AND Introduction to Online Learning  
Must complete Internet skills course no later than October prior to enrollment.

**340.646.81 EPIDEMIOLOGY AND PUBLIC HEALTH IMPACT OF HIV AND AIDS**  
(4 units)  
Farzadegan, Homayoon  
Provides an overview of the historical and public health aspects of the HIV/AIDS epidemic, with review and analysis of virology; immunology; clinical and laboratory manifestations; legal and ethical issues; economic impact; and needs for future research and intervention for global control of the HIV epidemic.  
**Prerequisite:** Introduction to Online Learning.

**Please check extradepartmental listing for courses in individual departments.**

<p><b>550.695.81</b></p>	<p><b>FUNDAMENTALS OF EPIDEMIOLOGY II</b> (3 units) Kanchanaraksa, Sukon and Diener-West, Marie Introduces students to the basic concepts of biostatistics and epidemiology as applied to public health problems. Emphasizes descriptive statistics, probability concepts, and methodology used in the conduct of epidemiologic studies. Topics include appropriate summary measures of morbidity and mortality, direct and indirect methods of adjustment, abridged and clinical life tables, and measures of association. Presents various epidemiologic study designs used to investigate associations between risk factors and diseases outcomes, culminating with criteria for casual inferences. Provides examples of applications of epidemiologic and biostatistical methods in health services, genetics and public policy. No auditors permitted. <b>Consent of instructor required</b> Special student-limited requires instructor consent. <b>Prerequisite:</b> Introduction to Online Learning Multi-term with 550.694 - FUNDAMENTALS OF EPIDEMIOLOGY I 550.695 - FUNDAMENTALS OF EPIDEMIOLOGY II 550.694 - FUNDAMENTALS OF EPIDEMIOLOGY I 550.694 - FUNDAMENTALS OF EPIDEMIOLOGY I 550.695 - FUNDAMENTALS OF EPIDEMIOLOGY II</p> <p>This is a multi-term course. Grades are given upon completion of the second part: 550 695.81.</p>	<p><b>313.790.81</b></p>	<p><b>UNDERSTANDING COST-EFFECTIVENESS ANALYSIS IN HEALTH CARE</b> (2 units) Frick, Kevin In light of the increasing constraints on health care resources, economic analysis of medical treatments and public health interventions is becoming an increasingly common tool in health policy decision making. The primary objective of this course is to prepare students to read and interpret cost-effectiveness studies. The students are first introduced to basic economic concepts that are needed in order to understand the recommendations from the United States Panel on Cost Effectiveness in Health and Medicine. One example is the distinction between opportunity costs and budgetary costs. The recommendations are then reviewed, particularly as they apply to what students should expect to read in cost-effectiveness research reports. Finally, the relationship between cost-effectiveness results and other elements of the health care policy decision making process are discussed. A critical discussion of several current articles demonstrating cost-effectiveness analyses are an integral part of this course. Enrollment minimum of 10 Enrollment maximum of 100 <b>Consent of instructor required</b> Due to high demand, instructor wants to ensure that degree-seeking, academic credit receiving students have priority to register for this course. <b>Prerequisite:</b> Introduction to Online Learning.</p>
<p><b>550.862.81</b></p>	<p><b>CURRENT ISSUES IN PUBLIC HEALTH</b> (1 unit) Schoenrich, Edyth Senior faculty present public health topics of current interest, such as health problems of industrialized and developing nations, health promotion and disease prevention, health care delivery systems, environmental problems and the spectrum of factors influencing the health status of populations and communities. <b>Prerequisite:</b> Introduction to Online Learning This is the Internet version of 550.861.</p>	<p><b>221.612.81</b></p>	<p><b>CONFRONTING THE BURDEN OF INJURIES:A GLOBAL PERSPECTIVE</b> (3 units) Hyder, Adnan and Segui-Gomez, Maria Provides an understanding of approaches to measuring the burden of injuries around the world and familiarizes students with current estimates of the burden of injuries in the global and developing world. Develops basic skills for assessment of injury epidemiology. Provides an appreciation of how to use these measures for planning interventions for injury prevention and creates awareness of the economic implications of injuries in the developing world. Promotes effective use of data for appropriate policy analysis for reduction of injury burden. <b>Prerequisite:</b> Introduction to Online Learning; 340.601; 305.610 is recommended. Jointly offered with HPM</p>
<p><b>300.700.81</b></p>	<p><b>TEACHING ASSISTANT ORIENTATION SEMINAR</b> (1 unit) Sleicher, Dana Introduces the role of the teaching assistant. Topics include JHU policies on grades, cheating, and sexual harassment; student evaluation; leading the discussion group; and the need for developing a personal philosophy of teaching. Students are encouraged to share their experiences as TAs and teachers. Lecture: TBA graduate students only <b>Pass/fail only</b> <b>Prerequisite:</b> completion of on-line learning course</p>	<p><b>221.637.81</b></p>	<p><b>HEALTH INFORMATION SYSTEMS</b> (3 units) Baqui, Abdullah Systematically presents population-based and provider-based methods by which data are secured and analyzed to provide indicators of health service use, health risk behavior, and outcomes relative to health status. Targets health status indicators as the basis of planning and evaluation across a wide range of health objectives and measurement characteristics examined. Introduces health information resources available through the World Wide Web and develops skills to search and access data through the Internet. <b>Prerequisite:</b> Introduction to Online Learning.</p>

**Please check extradepartmental listing for courses in individual departments.**

**330.603.81 PSYCHIATRIC EPIDEMIOLOGY**

(3 units)

Eaton, William

Presents the epidemiology of childhood mental disorders and late life dementias, mood and anxiety disorders, schizophrenia, and other disturbances of brain function and mental life. Examines operational case definitions, measurement techniques, and sampling strategies to enhance field surveys and risk factor research. Intended for clinical or public health practitioners and administrators acquainted with these illnesses, and specialists in other fields.

Email: weaton@jhsph.edu

Enrollment minimum of 10

**Consent of instructor required**

Consent required of undergraduates

**Prerequisite:** Introduction to Online Learning; prior or concurrent course in epidemiology or biostatistics, or consent of instructor.

Jointly offered with Epi

MH doctoral studs. must register for 1 unit 330.840 w/Drs. Anthony & Eaton

**380.600.81 PRINCIPLES OF POPULATION CHANGE**

(4 units)

Astone, Nan

Provides students with a basic understanding of the science of demography and health implications of major population issues in the contemporary world. Students explore population changes over time; elements of demography; child survival and mortality; family and households and demographic change; the demography of social and economic inequality, role of women, urbanization, migration and fertility. Finally, students examine world demographic patterns, synthesizing the data and issues surrounding the importance of population to public health.

**340.622.71 PRINCIPLES OF EPIDEMIOLOGY II**

(2 units)

Feinleib, Manning

Introduces principles and methods of epidemiologic investigation of infectious and noninfectious diseases. Illustrates methods by which studies of the distribution and dynamic behavior of disease in a population can contribute to an understanding of etiologic factors, modes of transmission, and pathogenesis. Presents different types of study design, including randomized trials, case-control and cohort studies, risk estimation and causal inferences. Demonstrates the relationship between epidemiology and the development of policy. Laboratory problems provide experience in epidemiologic methods and inferences, illustrating a common-vehicle epidemic; the spread of infectious disease in school, home, and community; epidemiological aspects of a noninfectious disease; vaccination; the epidemiological approach to health services evaluation; rates of morbidity and mortality; sensitivity and specificity; and life table methods. No auditors permitted.

Email: akhan@jhsph.edu

Lecture: T 6:00 - 9:30

Enrollment minimum of 20

Enrollment maximum of 50

Multi-term with 340.621 - PRINCIPLES OF EPIDEMIOLOGY I

Grade for 340.621 and 340.622 is given at the end of 340.622.

**NIH**

**GENETIC COUNSELING PROGRAM**

These courses are restricted to ScM students in the JHU/NIH Program in Genetic Counseling.

Students must obtain consent to register from Mary Ann Dunevan (mdunevan@jhsph.edu), the program coordinator, or the course instructor, as noted. All courses are held at NIH, in Bethesda, Maryland unless otherwise noted.

**415.611.92 INTRODUCTION TO HUMAN GENETICS I**

(2 units)

Biesecker, Leslie

415.610 addresses the chromosomal basis of heredity, chromosomes and genes, tools of human molecular genetics, single gene inheritance, variation, polymorphism and mutation, genes in populations and genes in families. 415.611 presents the role of genetic counseling in health care and emphasizes the essential components of prenatal, pediatric, and adult genetics services. Indications for referral and genetics education and counseling components are illustrated using care examples. Clinical skills and tools are taught including family, medical and development history taking and pedigree construction. Additional case management skills such as the choice of laboratory and test interpretation, and issues in billing and reimbursement of genetic counseling services are addressed. 415.612 -613 expand on the previous two courses to examine the Hemoglobinopathies and Thalassemias as models of molecular pathology, the molecular/biochemical basis of genetic disease, genetics of cancer, gene mapping, multifactorial inheritance, and gene therapy.

Email: mdunevan@jhsph.edu

Lecture: M 5:30 - 7:30

Enrollment minimum of 4

Enrollment maximum of 8

**Consent of instructor required**

**Prerequisite:** 415.610

Jointly offered with NIH

**INTERNET MODULE**  
**Extradepartmental**

**550.860.82 RESEARCH ETHICS**

(1 unit)

DiPietro, Janet

This series of online modules presents information concerning issues related to the responsible conduct of research, such as authorship, data management, data ownership, guidelines of professional conduct, research fraud or scientific misconduct, academic ethics, conflict of interest, federal and institutional guidelines related to research using human and animal subjects, ethical issues involving vulnerable subjects in research, confidentiality, the Institutional Review Board (IRB) and the Institutional Animal Care and Use Committee (IACUC).

Email: jyager@jhsph.edu

**Pass/fail only**

This course fulfills the requirement of all research students (PhD, ScD, ScM, and some MHS students) for a course in the responsible conduct of research.

**MONTGOMERY COUNTY**

**Please check extradepartmental listing for courses in individual departments.**

<p><b>415.621.92 GENETIC COUNSELING PRACTICE II</b> (2 units) Madeo, Anne Compares definitions of genetic counseling (GC) with objectives and service outcomes. Explores counselor values as they relate to roles and responsibilities toward clients. Introduces ethical and policy issues specific to GC in conjunction with a research agenda. Discusses and practices basic tools, including interviewing, history gathering, and case assessment, and nondirective counseling approaches. Email: mdunevan@jhspsh.edu  Lecture: F 11:00 - 1:50 Enrollment minimum of 4 Enrollment maximum of 10 <b>Consent of instructor required</b> <b>Prerequisite:</b> 415.620; Must be enrolled in ScM in Genetic Counseling Program Multi-term with 315.620 - GENETIC COUNSELING PRACTICE I Jointly offered with NIH</p>	<p><b>415.851.92 SUPERVISED CLINICAL ROTATIONS: GENETIC COUNSELING</b> (variable units) Biesecker, Barbara Clinical placements in adult, pediatric, and prenatal genetic centers in the Baltimore-Washington area provide opportunity to learn about genetic conditions by their impact on individuals and their families, and about roles of the genetic counselor. Individual rotations are scheduled to achieve a wide range of clinical experiences. Email: mdunevan@jhspsh.edu  Lecture: TBA Enrollment maximum of 15 <b>Pass/fail only</b> <b>Consent of instructor required</b> <b>Prerequisite:</b> Must be enrolled in ScM in Genetic Counseling Program Jointly offered with NIH</p>
<p><b>415.671.92 DEVELOPMENTAL BIOLOGY AND HUMAN MALFORMATIONS II</b> <b>Course offered every other year. Course offered this year.</b> (1 unit) Biesecker, Leslie Familiarizes students with modern developmental biology and the use of this knowledge to understand common human malformations. Includes lectures on the methodology and model systems of developmental biology; a review of preimplantation development and gastrulation, and embryogenesis/organogenesis. Subsequent lectures focus on the development of organ systems. Email: mdunevan@jhspsh.edu  Lecture: TBA <b>Consent of instructor required</b> Multi-term with 415.670 - DEVELOPMENTAL BIOLOGY AND HUMAN MALFORMATIONS I Jointly offered with NIH</p>	<p><b>415.861.92 GENETIC COUNSELING SEMINAR: TOPICS IN THE FIELD</b> (2 units) Biesecker, Barbara Case discussions highlight psychological, social, and ethical issues in genetic counseling. Review of recent relevant literature enhances critical thinking skills. Clients who have had personal experiences with a genetic condition or risk expose students to a variety of reactions and circumstances presented from the consumers perspective. Various professionals share services, research, and expertise relevant to genetic counselors. Students in related graduate or medical genetics programs are encouraged to enroll to maximize the opportunity for exchange between disciplines. Email: mdunevan@jhspsh.edu  Lecture: F 2:30 - 4:20 Enrollment maximum of 25 <b>Pass/fail only</b> <b>Consent of instructor required</b> <b>Prerequisite:</b> Must be enrolled in ScM in Genetic Counseling Program Jointly offered with NIH Students must register for all four terms.</p>
<p><b>415.702.92 ADVANCED GENETIC COUNSELING II</b> (2 units) Biesecker, Barbara This literature-driven course applies interactive genetic counseling techniques to specific settings and client needs. Faculty and students present key issues in client education for various medical specialties, and identify research needs related to genetic counseling. Explores counseling issues through role-play. Email: mdunevan@jhspsh.edu  Lecture: TBA Enrollment minimum of 4 Enrollment maximum of 12 <b>Consent of instructor required</b> <b>Prerequisite:</b> 415.701; Must be enrolled in ScM in Genetic Counseling Program Multi-term with 315.701 - ADVANCED GENETIC COUNSELING I Jointly offered with NIH</p>	<p><b>415.870.92 GENETIC COUNSELING CLINICAL SUPERVISION</b> (1 unit) Biesecker, Barbara Individual supervision sessions assist the student in recognizing the impact of personal styles and biases on the counseling process. Uses audiotapes and/or videotapes of student counseling sessions to review, analyze, and process student-client interactions throughout the students clinical rotations, and develop strategies for addressing barriers in the counseling process. Email: mdunevan@jhspsh.edu  Lecture: TBA Enrollment maximum of 15 <b>Pass/fail only</b> <b>Consent of instructor required</b> <b>Prerequisite:</b> Must be enrolled in ScM in Genetic Counseling Program; students must register for four terms.  Jointly offered with NIH</p>
<p><b>415.820.92 THESIS RESEARCH: GENETIC COUNSELING</b></p>	
<p><b>415.840.92 SS/R: GENETIC COUNSELING</b></p>	

Please check extradepartmental listing for courses in individual departments.

**415.882.92 GENETIC COUNSELING PROGRAM THESIS PROPOSAL DEVELOPMENT III**  
(2 units)  
Erby, Lori  
Critically examines the elements of the research proposal, through critiques of students' own work. Each student begins with a draft proposal developed in prior terms. Through a combination of class critiques and individual meetings with the instructor, prepares students to submit a final proposal and to take oral examinations at the end of the term.  
Lecture: T 8:30 - 10:20  
Enrollment minimum of 4  
Enrollment maximum of 8  
**Pass/fail only**  
**Prerequisite:** 415.880 and 415.881

**340.653.98 EPIDEMIOLOGIC INFERENCE IN OUTBREAK INVESTIGATIONS**  
(3 units)  
Taha, Taha  
Course Location: Barcelona Spain  
Using lectures, seminars, and lab discussions, provides students with practical understanding and set of epidemiologic tools to detect, investigate, and interpret infectious disease outbreaks. Provides skills for examining field data and deriving inferences from infectious disease epidemics and outbreak investigations. Discusses steps in investigating an outbreak and reviews some large and small outbreaks, mostly from the distant past. Focuses on the application of epidemiologic skills to real infectious disease outbreak case studies.  
Lecture: M T W 8:30 - 6:00 November 9-11, 2009  
full-time BSPH students must receive permission of Judy Holzer in HPM in order to register for this BARCELONA course offering  
**Prerequisite:** basic knowledge of infectious diseases

## NOT A HOPKINS FACILITY Environmental Health Sciences

**180.670.98 INTRODUCTION TO PUBLIC HEALTH EMERGENCY PREPAREDNESS**  
(3 units)  
Links, Jonathan  
Course Location: Barcelona, Spain  
Provides an introduction to public health emergency preparedness, including natural disasters, unintended human acts, terrorism, and emerging threats such as a pandemic. Focuses on the critical issues facing public health professionals and policy makers.  
Lecture: Th F S 8:30 - 6:00 November 5-7, 2009  
full-time BSPH students must receive permission of Judy Holzer in HPM in order to register for this BARCELONA course offering

**340.706.98 METHODS AND APPLICATIONS OF COHORT STUDIES**  
(2 units)  
Munoz, Alvaro  
Course Location: Barcelona Spain  
Discusses definition and basic characteristics of cohort studies; recruitment and follow-up procedures; assessment of exposure and outcome; descriptive analysis of cohort data; methods to estimate and compare incidence rates, including Poisson regression; methods for the analysis of disease-free and survival times; estimation and testing of relative hazards (Cox regression) and of relative times; methods to nest case-control and case-cohort designs in cohort studies; procedures to combine prevalent and incident subcohorts; and the role of cohort studies in evaluating interventions and in guiding public policy. Illustrates methods using cohort studies in which faculty have been directly involved.  
Lecture: Th F 8:30 - 6:00 November 12-13, 2009  
full-time BSPH students must receive permission of Judy Holzer in HPM in order to register for this BARCELONA course offering

**187.610.98 PUBLIC HEALTH TOXICOLOGY**  
(4 units)  
Trush, Michael  
Course Location: Barcelona Spain  
Examines basic concepts of toxicology as they apply to environmental toxicology. Discusses distribution, cellular penetration, metabolic conversion, and elimination of toxic agents, as well as the fundamental laws governing the interaction of foreign chemicals with biological systems. Focuses on the application of these concepts to the understanding and prevention of mortality and morbidity resulting from environmental exposure to toxic substances through a case study format.  
Lecture: M T W Th 8:30 - 6:00 November 16-19, 2009  
full-time BSPH students must receive permission of Judy Holzer in HPM in order to register for this BARCELONA course offering  
**Prerequisite:** background in chemistry and biology useful.

## Extradepartmental

**550.608.98 PROBLEM SOLVING IN PUBLIC HEALTH**  
(4 units)  
Sleicher, Dana  
Course Location: Barcelona Spain  
Uses divergent public health problems to illustrate the problem-solving process, which includes defining the problem, measuring its magnitude, understanding the key determinants, identifying and developing intervention and prevention strategies, setting priorities and recommending policies, understanding barriers to implementation and evaluation, and developing an effective communication strategy. Consists of lectures, discussions, and problem-solving exercises.  
Email: jholzer@jhsph.edu  
Lecture: T W Th F 8:30 - 6:00 November 3-6, 2009  
Enrollment minimum of 5  
Enrollment maximum of 25  
**Consent of instructor required**  
Full-time JHU-BSPH students must obtain permission from Judy Holzer, jholzer@jhsph.edu, in the Department of Health Policy and Management prior to registering for this class.

## Epidemiology

## Health Policy and Management

- 300.652.98 POLITICS OF HEALTH POLICY**  
(4 units)  
Navarro, Vicente  
Course Location: Barcelona Spain  
Analyzes the politics of health policy according to the dictum of one of the founders of public health, R. Virchow, "Public Health is a Social Science and Politics is Public Health in its most profound sense." Focuses on the political reasons for the underdevelopment of health and health care in the U.S. and in the world. Looks at how economic, social, and political power are reproduced through political institutions, and the consequences on the level of health and type of health care that countries have. Critiques the role of national and international agencies such as the WTO, World Bank, IMF, and WHO in facilitating and/or hindering development of health. Also focuses on U.S. governmental policies that diminish or increase the maldistribution of power outside and within the health sector.  
Email: jholzer@jhsph.edu  
Lecture: M T W Th 8:30 - 6:00 November 16-19, 2009  
Enrollment minimum of 5  
**Consent of instructor required**  
Full-time JHU-BSPH students must obtain permission from Judy Holzer, jholzer@jhsph.edu, in the Department of Health Policy and Management prior to registering for this class.
- 301.876.98 SS/R: EVALUATING PROGRAM OUTCOMES AND IMPACTS**  
(3 units)  
Nebot, Manel  
Course Location: Barcelona Spain  
Provides an overview of the methods for evaluating program effects, often called outcome or impact evaluation. Addresses the rationale for evaluating program effects and the basic issues in the design of such evaluations: identifying and conceptualizing outcomes; measuring outcomes; experimental and quasi-experimental designs for field settings; design sensitivity; and interpreting the magnitude of effects.  
Lecture: M T W 8:30 - 6:00 November 9-11, 2009  
full-time BSPH students must receive permission of Judy Holzer in HPM in order to register for this BARCELONA course
- 301.877.98 SS/R: HEALTH IMPACT ASSESSMENT AND ITS APPLICATION TO SOCIAL INEQUALITIES IN HEALTH**  
(3 units)  
Scott-Samuel, Alex  
Course Location: Barcelona Spain  
Provides an outline of the following aspects of health impact assessment: origins; global policy context and current policy drivers; detailed introduction to procedures and methods; relationships with health inequalities; methodological controversies; institutionalization; theoretical and practical gaps in knowledge and practice; prospects for further development in the US and Europe; relationship to other forms of impact assessment; aspects of capacity building. Also provides practical experience of undertaking a rapid HIA.  
Lecture: Th F S 8:30 - 6:00 November 5-7, 2009  
full-time BSPH students must receive permission of Judy Holzer in HPM in order to register for this BARCELONA course offering

- 305.607.98 PUBLIC HEALTH PRACTICE**  
(4 units)  
Burke, Thomas  
Course Location: Barcelona Spain  
Focuses on the areas of knowledge and skill necessary to the administration of health agencies. Studies administrative structure, intergovernmental relations, legislation, politics, and the public budgetary process with reference to health departments on the federal, state, and local levels. Reviews public sector issues for which health agencies are responsible, including AIDS, health promotion strategies, primary care, and immunization programs.  
Email: jholzer@jhsph.edu  
Lecture: M T W Th 8:30 - 6:00 November 9-12, 2009  
**Consent of instructor required**  
Full-time JHU students are required to obtain permission from the department (Judy Holzer) before registering for this course.  
As part of the HPM Fall Institute, students enrolled in this course will receive course materials 1 month prior to the start of the course. the 4-day in-class session will be used to discuss course materials and group exercises. Students will complete and submit the final paper approximately 1 month after the conclusion of the in-class session.
- 305.864.98 SS/RES: SOCIAL INEQUALITIES IN HEALTH IN LIGHT OF ROAD TRAFFIC SAFETY**  
(3 units)  
Laflamme, Lucie  
Course Location: Barcelona Spain  
Provides an overview of the various manners in which the road traffic infrastructure and environment may contribute to the occurrence of accidents and injuries and also to social inequalities in mobility and safety. Examines analytic methods related to injury research and prevention using examples from both LMICs and HICs.  
Lecture: M T W 8:30 - 6:00 November 2-4, 2009  
full-time BSPH students must receive permission of Judy Holzer in HPM in order to register for this BARCELONA course offering
- 309.869.98 SS/R: PRIMARY HEALTH CARE IN THE 21ST CENTURY**  
(3 units)  
Starfield, Barbara  
Course Location: Barcelona Spain  
Examines the reforms that have taken place in primary health care over the last 25 years. Topics include: the model and functions of primary health care, have they really changed?; the level of coordination between primary health care and other levels of the health system; and what is the role of primary health care in health promotion and prevention?  
Lecture: M T W 8:30 - 6:00 November 16-18, 2009  
full-time BSPH students must receive permission of Judy Holzer in HPM in order to register for this BARCELONA course offering

## Mental Health

**330.674.98 SUICIDE AS A PUBLIC HEALTH PROBLEM**

(3 units)

Wilcox, Holly

Course Location: Barcelona Spain

Introduces students to the following content areas with regard to suicide: history and theories; epidemiology; etiological factors and mechanisms; clinical phenomenology and comorbid disorders; assessment of suicidal behaviors; special populations; preventive and treatment interventions; ethical issues on the conduct of research on suicidal populations.

Lecture: M T W 8:30 - 6:00 November 2-4, 2009

full-time BSPH students must receive permission of Judy Holzer in HPM in order to register for this BARCELONA course offering

**301.775.01 HEALTH INFORMATION PRIVACY AND POLICY**

Personally-identifiable health information is increasingly available in electronic form in health databases and through online networks in the public and private sectors. Responsible acquisition and use of this data can enhance patient autonomy and clinical treatment and improve health research and public health surveillance. However, the proliferation of health data also presents new legal and policy challenges. Federal, state, and local government law and policy-makers have recognized the need to protect health information privacy to prevent discrimination against individuals and groups and maintain the quality and reliability of health data. Yet considerable debate over the methods, approaches, and extent of protections has led to irregular health information privacy protections. This course addresses issues relating to protecting health information privacy in the modern information era. Although theoretical and ethical discussions underlying health information privacy are included, the course focuses on the legal, policy, and practical issues surrounding the protection of health information privacy through an examination and application of major international, federal, and state privacy laws and policies.

**309.820.01 THESIS RESEARCH HEALTH SERVICES RESEARCH**

**311.841.01 SPECIAL STUDIES AND RESEARCH HPM/DRPH**

Students conduct independent research with faculty members.

## Cancelled - Department

**140.672.01 INTRODUCTION TO PROBABILITY II**

Introduces probability theory, including basic concepts in measure theory and probability; random variables and their distributions; moments of random variables and probability inequalities; moment-generating and characteristic functions; convergence concepts and limit theorems; transformation and order statistics.

**182.617.01 INTRODUCTION TO THE CHEMISTRY OF AMBIENT AIR POLLUTANTS**

Covers the basic processes involved with the creation and transformation of ambient air pollutants. Briefly reviews key organic and physical chemistry concepts including functional groups, basic photochemistry, and simple gas-phase kinetics. Discusses important photochemical reactions in the lower atmosphere including the formation of and reactions involving ozone. Presents mechanisms of formation and the chemical composition of particulate matter focusing on organic and inorganic constituents.

**380.764.01 REPRODUCTIVE HEALTH RESEARCH IN DEVELOPING COUNTRIES: ISSUES AND METHODS**

Reviews documentation on reproductive health problems in developing countries and innovative social science research methodological approaches for investigation. Intended for second year doctoral students.

## Discontinued

**120.614.01 NUCLEIC ACID CHEMISTRY II**

Presents organic chemistry, structure, and conformation of nucleic acids and their components. 120.613 describes the synthesis of nucleoside, nucleoside antibiotics, oligo- and polynucleotides, and nucleic acid analogs, as well as chemical reactions involving these materials. 120.614 describes the structure, conformation, and interactions of nucleoside, oligo- and polynucleotides, and polynucleotide complexes as investigated by various physicochemical and spectroscopic techniques.

**340.669.01 STATISTICAL APPROACHES TO GENETICS OF CANCER**

Covers statistical methodology frequently applied to linkage and lineage disequilibrium. Including more novel approaches such as microarray analysis and genetic pathway analysis. Topics include segregation analysis, parametric and non-parametric linkage analysis, gene-environment interaction, case-control analysis, haplotype analysis, microarray analysis and pathway.