PUBLIC HEALTH STUDIES

http://krieger.jhu.edu/publichealth/

Public Health combines a prevention orientation with a population perspective in pursuit of better health for all members of society. Public health professionals deal with critical large-scale issues such as access to health care; chronic disease control, mapping, predicting, and containing outbreaks of infectious disease; as well as researching factors that contribute to health outcomes such as gender, poverty, and education. Public Health has close ties with medicine through research, clinical practice, and formulating policy.

The Public Health Studies Program offers undergraduates a major that links them to the world of public health through core courses taken on the Homewood campus, as well as electives taken at the Johns Hopkins Bloomberg School of Public Health (JHSPH).

Core coursework at Homewood includes Introduction to Public Health, Research Methods for Writing in Public Health, Fundamentals of Epidemiology, Environment and Your Health, Fundamentals of Health Policy and Management, Biostatistics, and a course in Social and Behavioral Health. Students also take coursework in Social Sciences, Biology and Calculus. Students will select additional public health coursework from a range of options that include the global health, demography, health economics, medical sociology, history, and politics. The major is flexible and easily adapted to further course work in the natural sciences and historically. About two-thirds of Public Health Studies majors complete the premedical core curriculum.

Public Health Studies majors also complete the Public Health Applied Experience as part of their undergraduate degree requirements. This involves a supervised, hands-on experience working with public health professionals. The goal of the applied experience requirement is to ensure that students have practical public health exposure in a research or community setting. Find more information at http://krieger.jhu.edu/publichealth/applied-experience/

The Johns Hopkins Bloomberg School of Public Health is the oldest and largest school of public health in the United States. Although its primary function is as a graduate school, seniors majoring in public health studies take a semester’s worth of courses there in fulfilling their B.A. degree requirements. Many students get involved in ongoing research projects at JHSPH.

Available coursework at JHSPH includes the following areas: health education, environmental health sciences, epidemiology, health finance and management, health policy, human genetics, immunology and infectious diseases, international health, maternal and child health, mental health, nutrition, occupational medicine/health protection and practice, population studies, toxicology, and tropical medicine, among others.

An honors option is available to Public Health Studies seniors with a major GPA of 3.5. Public Health Honors students complete an independent research project under the supervision of a JHU faculty member and with the guidance of the Honors seminar instructor. Students register for 280.495 Honors in Public Health Seminar in the fall and 280.499 in the spring. Interested students should discuss their plans with their PHS advisor no later than the spring of their senior year.

Many Public Health Studies students have pursued international public health internships and study abroad opportunities both during the academic year and over the summer. In addition to a wide array of general options available through the JHU Office of Study Abroad, the PHS program has established two public-health specific annual programs: Intercession (3 weeks) in Uganda and Summer (7 weeks) in South Africa. Each includes both academic and applied components and allows students to earn graded JHU credits which can be used toward the Public Health Studies major. The Uganda program compares health issues in urban and rural settings, while the South Africa program closely investigates the impact of the HIV epidemic on prevention measures and healthcare delivery in that country. For more information, go to krieger.jhu.edu/publichealth/academics/study-abroad/.

The Public Health Studies office is located in the 3505 North Charles Building, adjacent to the Homewood campus. Public Health Studies advisors may be consulted about the various courses, careers, and graduate programs in public health on a walk-in basis or by appointment. Information can also be obtained by emailing phstudies@jhu.edu or at http://krieger.jhu.edu/publichealth.

Bachelor of Arts/Masters Program

The Bachelor of Arts/Master of Health Sciences (BA/MHS) and Bachelor of Arts/Master of Sciences in Public Health (BA/MSPH) programs are a coordinated academic collaboration between the Krieger School of Arts and Sciences and the Johns Hopkins Bloomberg School of Public Health. It enables talented and committed Public Health Studies Program majors to complete a BA and master’s degree from the School of Public Health in five to six years.

The Department of Environmental Health Sciences, Department of Epidemiology, Department of Mental Health and Department of International Health will consider JHU undergraduates majoring in Public Health Studies for admission to the BA/MHS program. The Department of Environmental Health Sciences also offers a BA/MSPH in Occupational and Environmental Hygiene. The Department of Health Policy and Management offers a BA/MSPH in Health Policy.

Public Health Studies students apply for early admission during their junior year. Admitted students must complete the BA degree before formally enrolling in the graduate school, but up to 16 of the public health credits earned inter-divisionally toward the BA may also apply toward the MHS or MSPH degree. In addition, students in this program will receive co-advising from both schools to optimize their academic experience. Find more information at http://krieger.jhu.edu/publichealth/academics/.

Public Health Studies Program Advisory Board

The Public Health Studies Program Advisory Board reviews the progress and status of the Public Health Studies Program. Members provide advice and guidance on issues that are vital to a successful program, such as faculty appointments, curriculum reviews, utilization of university resources, and new funding opportunities.

One designated Public Health Studies Alumni serves a 2-year term on the committee. 

Board Members
Krieger School of Arts and Sciences
Joel Schildbach; Vice Dean for Undergraduate Education; Professor (Biology)
Andy Cherlin; Professor (Sociology); Benjamin H. Griswold III Professor of Public Policy
Adam Sheingate; Associate Professor (Political Science); Advisory Board Chair
Requirements for the B.A. Degree

All major requirements must be taken for a letter grade. Course taken satisfactory/unsatisfactory do not apply towards the major with some exceptions for the applied experience requirement. Major requirements are as follows:

Courses at Homewood

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.280.101</td>
<td>Introduction to Public Health</td>
<td>3</td>
</tr>
<tr>
<td>AS.280.240</td>
<td>Research Methods and Scientific Writing for Public Health</td>
<td>4</td>
</tr>
<tr>
<td>AS.280.335</td>
<td>The Environment and Your Health</td>
<td>3</td>
</tr>
<tr>
<td>AS.280.340</td>
<td>Fundamentals of Health Policy &amp; Management</td>
<td>3</td>
</tr>
<tr>
<td>AS.280.345</td>
<td>Public Health Biostatistics</td>
<td>4</td>
</tr>
<tr>
<td>AS.280.350</td>
<td>Fundamentals of Epidemiology</td>
<td>4</td>
</tr>
</tbody>
</table>

Two courses in biology and one corresponding lab: 9-10

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.020.151</td>
<td>General Biology I</td>
<td>3</td>
</tr>
<tr>
<td>AS.020.152</td>
<td>General Biology II</td>
<td>3</td>
</tr>
<tr>
<td>AS.020.153</td>
<td>General Biology Laboratory I</td>
<td>1</td>
</tr>
<tr>
<td>AS.020.154</td>
<td>General Biology Lab II</td>
<td>1</td>
</tr>
<tr>
<td>AS.020.305</td>
<td>Biochemistry</td>
<td>3</td>
</tr>
<tr>
<td>AS.020.315</td>
<td>Biochemistry Project Lab</td>
<td>1</td>
</tr>
<tr>
<td>AS.020.306</td>
<td>Cell Biology</td>
<td>3</td>
</tr>
<tr>
<td>AS.020.316</td>
<td>Cell Biology Lab</td>
<td>1</td>
</tr>
</tbody>
</table>

Select two introductory social science courses from Table 1. 6

Students matriculating Fall 2017 or later must take these from two different departments.

Select one course to satisfy the core competency in the social and behavioral aspects of public health: 3

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.230.341</td>
<td>Sociology of Health and Illness</td>
<td>3</td>
</tr>
<tr>
<td>AS.280.361</td>
<td>Clinical &amp; Public Health Behavior Change</td>
<td>3</td>
</tr>
<tr>
<td>AS.280.362</td>
<td>Clinical &amp; Public Health Behavior Change</td>
<td>3</td>
</tr>
</tbody>
</table>

Three public health courses at the 200-400 level offered on the Homewood campus 9

Ten credits of courses at the Bloomberg School of Public Health 10

Applied clinical or community-based experience 0-3

Sample Program

A typical program might include the following sequence of courses:

**Freshman**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credits</th>
<th>Spring</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.280.101</td>
<td>3</td>
<td>AS.280.101</td>
<td>3</td>
</tr>
<tr>
<td>AS.020.151</td>
<td>3</td>
<td>AS.280.152</td>
<td>3</td>
</tr>
<tr>
<td>AS.020.153</td>
<td>1</td>
<td>AS.280.340</td>
<td>3</td>
</tr>
<tr>
<td>AS.020.154</td>
<td>1</td>
<td>Introductory Level Social Science from Table 1</td>
<td>3</td>
</tr>
<tr>
<td>AS.110.106 or AS.110.108</td>
<td>4</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>AS.280.345</td>
<td>4</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>AS.280.350</td>
<td>4</td>
<td></td>
<td>4</td>
</tr>
</tbody>
</table>

Sophomore

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credits</th>
<th>Spring</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.280.240</td>
<td>4</td>
<td>AS.280.240</td>
<td>4</td>
</tr>
<tr>
<td>AS.280.335</td>
<td>3</td>
<td>AS.280.350</td>
<td>4</td>
</tr>
<tr>
<td>AS.280.345</td>
<td>4</td>
<td>Fundamentals of Health Policy and Management</td>
<td>4</td>
</tr>
</tbody>
</table>
Table 1

Approved Introductory Level Social Science Courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS.060.155</td>
<td>Expository Writing: Introduction to the Research Paper - Controversies in Adolescence</td>
<td>3</td>
</tr>
<tr>
<td>AS.070.132</td>
<td>Invitation to Anthropology</td>
<td>3</td>
</tr>
<tr>
<td>AS.140.105</td>
<td>History of Medicine</td>
<td>3</td>
</tr>
<tr>
<td>AS.140.106</td>
<td>History of Modern Medicine</td>
<td>3</td>
</tr>
<tr>
<td>AS.140.146</td>
<td>History of Public Health in East Asia</td>
<td>3</td>
</tr>
<tr>
<td>AS.150.219</td>
<td>Introduction to Bioethics</td>
<td>3</td>
</tr>
<tr>
<td>AS.180.101</td>
<td>Elements of Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>AS.180.102</td>
<td>Elements of Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>AS.190.220</td>
<td>Global Security Politics</td>
<td>3</td>
</tr>
<tr>
<td>AS.190.284</td>
<td>Classics of Political Theory: Political Freedom</td>
<td>3</td>
</tr>
<tr>
<td>AS.200.101</td>
<td>Introduction To Psychology</td>
<td>3</td>
</tr>
<tr>
<td>AS.200.110</td>
<td>Introduction to Cognitive Psychology</td>
<td>3</td>
</tr>
<tr>
<td>AS.200.132</td>
<td>Introduction to Developmental Psychology</td>
<td>3</td>
</tr>
<tr>
<td>AS.200.133</td>
<td>Introduction to Social Psychology</td>
<td>3</td>
</tr>
<tr>
<td>AS.200.209</td>
<td>Personality</td>
<td>3</td>
</tr>
<tr>
<td>AS.200.212</td>
<td>Abnormal Psychology</td>
<td>3</td>
</tr>
<tr>
<td>AS.200.222</td>
<td>Positive Psychology</td>
<td>3</td>
</tr>
<tr>
<td>AS.230.101</td>
<td>Introduction to Sociology</td>
<td>3</td>
</tr>
<tr>
<td>AS.230.150</td>
<td>Issues in International Development</td>
<td>3</td>
</tr>
<tr>
<td>AS.271.107</td>
<td>Introduction to Sustainability</td>
<td>3</td>
</tr>
<tr>
<td>AS.360.247</td>
<td>Introduction to Social Policy: Baltimore and Beyond</td>
<td>3</td>
</tr>
<tr>
<td>EN.570.108</td>
<td>Introduction Environmental Engineering</td>
<td>3</td>
</tr>
<tr>
<td>EN.570.110</td>
<td>Introduction to Engineering for Sustainable Development</td>
<td>3</td>
</tr>
</tbody>
</table>

Honors in Public Health Studies

An honors option is available to Public Health Studies seniors with a major GPA of 3.5. Public Health Honors students complete an independent research project under the supervision of a JHU faculty member and the guidance of the Honors seminar instructor. Students register for AS.280.495 Honors in Public Health - Seminar in the fall and AS.280.499 Honors in Public Health in the spring. Interested students should discuss their plans with their PHS advisor no later than the spring of their junior year. Students may not count the honors courses towards any other requirement of the major; they are in addition to major requirements.

For current faculty and contact information go to http://krieger.jhu.edu/publichealth/directory/

Faculty

Program Director
Maria Bulzacchelli
PhD; Assistant Research Professor; Director, Undegraduate Program in Public Health Studies

Assistant Director
Lisa Folda
M.H.S.; Lecturer (Public Health Studies); Academic Advisor.

Academic Advisor
Katherine Henry
PhD; Academic Advisor (Public Health Studies).

Faculty

Stanley Becker
Professor (Population, Family, and Reproductive Health).

Peter Beilenson
Associate (Public Health Studies).

David Bishai
Professor (Population, Family, and Reproductive Health).

Lee Bone
Associate Professor (Health, Behavior, and Society).

Joseph Bressler
Professor (Environmental Health and Engineering)

Amelia Buttress
Assistant Scientist (Health, Behavior and Society)

Lawrence Cheskin
Associate Professor (Health, Behavior, and Society).

Ann Herbert
School of Public Health Post-Doctoral Student (Health, Behavior and Society)

Leah Jager
Assistant Scientist (Biostatistics).

Megan Latshaw
Assistant Scientist (Environmental Health and Engineering)

Philip Leaf
Professor (Mental Health).

Catherine Maulsby
Associate Scientist (Health, Behavior and Society)

Heather McKay
Research Associate (Epidemiology)

Michael Schneider
Research Associate (Epidemiology)

Margaret Taub
Assistant Scientist (Biostatistics).

Roland Thorpe
Associate Professor (Health, Behavior and Society)

Jon Vernick
Professor (Health Policy and Management)

Peter Winch
Professor (International Health).

Barry Zirkin
Professor (Biochemistry and Molecular Biology).

For current course information and registration go to https://sis.jhu.edu/classes/

Courses

AS.280.101. Introduction to Public Health. 3.0 Credits.
This course provides an overview of the field of public health. Topics include the major causes of morbidity and mortality; the socioeconomic, behavioral, and environmental factors that affect health; the analytical methods used in the field; the role of government in protecting the public's health; key features of the U.S. health care system; and current challenges in the field. The course also introduces students to the basic conceptual models and approaches that are central to public health practice. This course is restricted to rising Sophomores who are declared Public Health Studies majors, and incoming Freshman only. Your enrollment may be withdrawn at the discretion of the instructor if you don't meet one of those criteria.
Instructor(s): M. Bulzacchelli
Area: Social and Behavioral Sciences.

AS.280.120. Lectures on Public Health and Wellbeing in Baltimore. 1.0 Credit.
An introduction to Urban Health with Baltimore as a case study: wellbeing, nutrition, education, violence and city-wide geographic variation. Lectures by JH Faculty, local government/service providers and advocates.
Instructor(s): P. Leaf
Area: Social and Behavioral Sciences.

AS.280.161. Applications of Biological Concepts in Public Health. 3.0 Credits.
This course explores the basic biology concepts relevant to public health. Case studies will be used to examine key scientific principles and their application. This course is designed for public health students who are not intending to pursue a career in natural sciences or medicine. This course satisfies the Public Health Studies Biology requirement, but does not satisfy Pre-Med requirement. All freshman must have taken or be currently enrolled in AS.280.101 to register. Department Approval Required.
Prerequisites: AS.020.151
Instructor(s): K. Henry
Area: Social and Behavioral Sciences.

AS.280.203. Introduction to International Nutrition. 1.0 Credit.
The course presents a broad overview of international public health nutrition, including: main nutritional problems in developing countries, causes and consequences of malnutrition, and multi-level approaches for the prevention and treatment of malnutrition. Grades will be based on class attendance, participation, and a presentation that describes the key nutrition indicators for a low-income country of the student’s choice, and proposes an intervention to address the country’s nutrition challenges.
Instructor(s): J. Emerson.

AS.280.220. Baltimore and The Wire: A focus on major urban issues. 3.0 Credits.
Playing off the themes raised in the HBO series "The Wire", this course will provide an introduction to major issues confronting Baltimore and other American urban centers through a series of lectures by policy makers in the region.
Instructor(s): P. Beilenson
Area: Social and Behavioral Sciences.

AS.280.224. Health, Homelessness & Social Justice. 3.0 Credits.
Homelessness is bad for one's health, and its existence, persistence, and growth demonstrate deep policy failures and social ills. This course examines issues fundamental to the modern phenomena of homelessness in the U.S. – and the connection between disparate health and desperate inequality. There are ethical values and dimensions to the decisions we make about health policy – and public policy generally. Life, liberty, the pursuit of happiness, equality, justice, community, democracy, human rights, and human flourishing; there are many values that we might prioritize – both individually and collectively – as we develop and assess programs, policies, and systems. In this course, we will consider these and other values together with issues of health and homelessness. We will also examine tools of policy analysis and political action, and how those committed to changing the world can use those tools to engage that system critically.
Instructor(s): A. Schneider
Area: Social and Behavioral Sciences.

AS.280.225. Population, Health and Development. 3.0 Credits.
This course will cover the major world population changes in the past century as well as the contemporary situation and projections for this century. Topics include rapid population growth, the historical and continuing decline of death and birth rates, contraceptive methods as well as family planning and child survival programs, population aging, urbanization, population and the environment and the demographic effects of HIV/AIDS. This course is restricted to Public Health Studies majors. Students minoring in Study of Women, Gender, and Sexuality can register with instructor approval.
Prerequisites: Students who have taken AS.230.225 may not take AS.280.225.
Instructor(s): S. Becker
Area: Social and Behavioral Sciences.

AS.280.226. Mini-Term: Urban Environments and Public Health. 3.0 Credits.
Introduction to physical and social environmental systems issues affecting the health of several marginalized populations (eg. immigrants, impoverished and homeless). The course will primarily use Baltimore as the field for experiential learning, and will incorporate cross-cultural discussions, a variety of readings, and guest lecturers from Hopkins faculty and industry experts. Course will meet for two weeks: from July 7th through 18th.
Instructor(s): A. Rule
Area: Social and Behavioral Sciences.
AS.280.232. Applications of Precision Medicine in Public Health. 1.0 Credit.
This course will (1) introduce students to principles of precision medicine (PM) across the care continuum and (2) engage students to think critically about how PM will change the medical and public health landscape. Students will learn about the PM initiative and current examples of PM in disease prevention, diagnosis, treatment and surveillance. Students will identify challenges associated with incorporating PM into our health care system and discuss strategies to mitigate such challenges.
Instructor(s): M. Roberts.

AS.280.240. Research Methods and Scientific Writing for Public Health. 4.0 Credits.
This course examines the research process, with an emphasis on formulating research questions, critically evaluating published research, and drawing objective conclusions from a body of scientific literature. Students conduct a systematic review of the scientific literature related to a public health issue. Labs focus on developing and documenting a sound review methodology and communicating the review findings effectively in writing.
Prerequisites: AS.280.101
Instructor(s): R. Thorpe
Area: Social and Behavioral Sciences
Writing Intensive.

AS.280.302. GIS as a Public Health Tool. 3.0 Credits.
This course provides an introduction to Geographic Information Systems (GIS) and presents its utility in the various fields of public health such as Epidemiology, Environmental Health and International Health. Provides exposure to GIS as a tool for describing the magnitude of health problems and for supporting health decision making. Course topics include a historical overview of the intersection between geography and public health; current epidemiological use of GIS; and, GIS applications in identifying public health problems such as the current Ebola outbreak. This course is ideal for students who desire exposure to the vast utility of GIS as it applies to public health.
Instructor(s): J. Ferguson
Area: Quantitative and Mathematical Sciences, Social and Behavioral Sciences.

AS.280.303. Responding to Disasters: From Earthquakes to Ebola. 3.0 Credits.
Responding to Disasters: from Earthquakes to Ebola introduces students to the fundamentals of humanitarian and disaster response. The course is divided into four topic areas: (1) fundamentals of humanitarian emergencies, (2) methods in humanitarian emergency settings, (3) refugee health, and (4) emerging issues in humanitarian response.
Instructor(s): J. Freeman
Area: Social and Behavioral Sciences.

AS.280.312. Media, Politics, and Evidence in the History of Public Health. 3.0 Credits.
This writing intensive course will encourage students to consider what counts as evidence among public health professionals as well as popular audiences. Using case studies from the field of epidemiology, now emblematic of the field, students will learn about historical changes in theories of population health and disease. Through a series of writing assignments, students will interrogate the formal structure of scientific arguments and gain practice in synthesizing and communicating complex ideas to a lay audience. Juniors/Seniors Only
Prerequisites: Prerequisite/Corequisite: AS.280.350
Instructor(s): A. Buttress
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.280.320. Seminar on Public Health and Well-being in Baltimore. 3.0 Credits.
Seminar combines lectures from AS.280.120 with additional readings and discussion to more deeply address urban health issues. The course will revolve around student projects that can impact health and wellbeing in Baltimore. If you are accepted for this course do NOT register for AS.280.120. Course registration is by instructor permission only. You will be asked to provide a brief description of a project in order to determine your potential linkage with this course. This course is utilizing the online active approval process. Permission requests should be submitted via SIS Self-Service upon the opening of your registration period. The instructor will review requests and approve registrations using SIS Self-Service for Faculty. Please note, a request does not guarantee registration into the course. Status inquiries should be address to the instructor or departmental administrator.
Instructor(s): P. Leaf
Area: Social and Behavioral Sciences.

AS.280.325. Public Health Policy and Politics. 3.0 Credits.
This course will introduce students to the major concepts of the American political process (local, state and federal), and to the use of different aspects of the political realm to achieve policy change in the public health/health care arena. As part of the course we will illustrate the decision making process of making policy change through political action with real world examples (mostly from Baltimore and Maryland), examine policy and politics of the U.S. health care system, and participate in the political process through a mock legislative hearing. You cannot register for this course if you have taken AS.280.103.
Prerequisites: Students may not enroll if you have taken AS.280.103.
Instructor(s): P. Beilenson
Area: Social and Behavioral Sciences.

AS.280.326. Public Health in South Africa. 3.0 Credits.
This course provides an in-depth overview of Public Health in South Africa, including material on the political climate, health care services, and the impact of the HIV/AIDS epidemic. Course is taught in Cape Town, South Africa.
Instructor(s): M. Smart
Area: Social and Behavioral Sciences.

AS.280.328. Community-Based Learning in South Africa. 3.0 Credits.
3 Credit course taught in Cape Town, South Africa. This course may be used to satisfy the Public Health Applied Experience requirement. Students will participate in a community-based service learning program with a local NGO in Cape Town.
Instructor(s): M. Smart
Area: Social and Behavioral Sciences.
AS.280.329. The Good, the Bad, and the Ugly: Scientific Writing in Public Health. 3.0 Credits.
This course covers how to conduct a literature review, and interpret and evaluate scientific literature that focuses on public health. In addition, this course will provide students with fundamental skills of writing a scientific manuscript. Skills obtained in this course will prepare students for advanced-level senior year classes at Bloomberg and other graduate institutions.
Prerequisites: AS.280.350; AS.280.345
Instructor(s): R. Thorpe
Area: Social and Behavioral Sciences Writing Intensive.

AS.280.335. The Environment and Your Health. 3.0 Credits.
This course surveys the basic concepts underlying environmental health sciences (toxicology, exposure assessment, risk assessment), current public health issues (hazardous waste, water- and food-borne diseases), and emerging global health threats (global warming, built environment, ozone depletion, sustainability). Public Health Studies, Global Environmental Change and Stability, and Earth and Planetary Science majors have 1st priority for enrollment. Your enrollment may be withdrawn at the discretion of the instructor if you are not a GECS, PHS, or EPS major.
Instructor(s): J. Bressler; J. Yager; M. Latshaw
Area: Natural Sciences.

AS.280.340. Fundamentals of Health Policy & Management. 3.0 Credits.
Through lectures and small group discussions, students will develop a framework for analyzing health care policy problems and gain familiarity with current issues including managed care, Medicare and the uninsured. Public Health Studies majors have 1st priority for enrollment. Your enrollment may be withdrawn at the discretion of the PHS program if you are not a PHS major.
Instructor(s): J. Vernick
Area: Social and Behavioral Sciences.

AS.280.345. Public Health Biostatistics. 4.0 Credits.
Using problem-based learning focusing on public health topics, students learn to describe & summarize data, make inferences regarding population parameters, & test hypotheses. Recommended Course Background: Four years of high school math.
Prerequisites: Statistics Sequence restriction: students who have completed any of these courses may not register: EN.550.211 OR EN.550.230 OR AS.200.314 OR AS.200.315 OR EN.550.310 OR EN.550.311 OR EN.560.435 OR EN.550.420 OR EN.550.430 OR EN.560.348
Instructor(s): L. Jager; M. Taub
Area: Quantitative and Mathematical Sciences.

AS.280.346. Advanced Biostatistics Laboratory. 1.0 Credit.
As a complementary course to 280.345, Public Health Biostatistics, this course teaches R programming skills necessary for conducting independent data analyses, beyond those presented in the main course. No programming experience is necessary, but a willingness to learn independently and work with other students is indispensable.
Prerequisites: AS.280.345
Instructor(s): L. Jager; M. Taub
Area: Quantitative and Mathematical Sciences.

AS.280.347. Health Data Analysis Practicum. 2.0 Credits.
Students will learn to formulate precise scientific and policy questions, design exploratory and confirmatory statistical analyses to address the questions, conduct appropriate analyses using the statistical package R, and communicate their findings through graphical and tabular displays that are presented in writing and in person. The course will be run in a seminar style in which students conduct data analysis to present to one another in one meeting per week. Evaluation will be through class participation and a final project in which students will analyze their own data set to address a question of their choice. Students need to have taken an introductory statistics course at the level of AS.280.345 (Public Health Biostatistics) and must have some experience using the statistical software R to perform basic analyses.
Instructor(s): L. Jager; M. Taub
Area: Quantitative and Mathematical Sciences.

AS.280.350. Fundamentals of Epidemiology. 4.0 Credits.
A practical introduction to epidemiology focusing on the principles and methods of examining the distribution and determinants of disease morbidity and mortality in human populations. This course is restricted to Public Health Studies rising seniors and rising juniors.
Instructor(s): H. Mckay; M. Schneider
Area: Quantitative and Mathematical Sciences.

AS.280.360. Clinical & Public Health Behavior Change. 3.0 Credits.
This course explores the theory and practice of changing the health behaviors of individuals, and the public health and medical impact of doing so. Theoretical concepts are integrated with practical clinical applications, especially in the areas of diet and fitness. Skill building in persuasive, health-related communication will be included in smaller group discussions.
Instructor(s): L. Cheskin
Area: Social and Behavioral Sciences.

AS.280.380. Global Health Principles and Practices. 3.0 Credits.
Global health addresses the staggering global disparities in health status, drawing on epidemiology, demography, anthropology, economics, international relations and other disciplines. We review patterns of mortality, morbidity and disability in low and middle income countries, starting with malnutrition, infectious diseases and reproductive health, and continuing to an emerging agenda including mental health, injury prevention, surgical care, chronic diseases, and health impacts of climate change. Gender, health systems and health workforce challenges, and career trajectories in global health are also discussed. Recommended course background: Minimum of one prior course in Public Health.
Instructor(s): P. Winch
Area: Social and Behavioral Sciences.

AS.280.399. Community Based Learning - Practicum Community Health Care. 3.0 Credits.
This course is designed to expose students to urban health with focus on Baltimore City through lectures, class discussions, and experiential learning. Students will select a community-based organization (CBO) according to their expressed interests and schedule in order to complete 45 hours of service based learning. Grades are based on participation, completion of service learning project, presentation, and papers. Open to Junior Public Health Studies majors only. Others by permission of instructor.
Instructor(s): J. Goodyear; L. Bone
Area: Social and Behavioral Sciences.
How does U.S. military policy impact global and national public health? Do U.S. military missions promoted as humanitarian assistance, such as those in Africa and Afghanistan, compromise global development and independent humanitarian action programs? Did the CIA's covert use of a vaccination program in Pakistan as cover for intelligence gathering threaten the success of global immunization campaigns? How have vaccines and drugs developed for U.S. military use benefited global public health? These topics and much more will be the focus in this seminar that explores consequences within conflict zones and the developing world, and among military personnel and veterans. Gordis Teaching Fellowship course. Juniors and Seniors Public Health Studies majors only.
Instructor(s): R. Nevin
Area: Social and Behavioral Sciences.

AS.280.407. Public Health and Disasters. 3.0 Credits.
This course will introduce students to the public health component of preparedness and response to common emergencies, including the public health implications of such situations and the role of public health agencies and practitioners. The course will employ an all-hazard perspective, including emerging infections, natural disasters, and terrorism. Students will understand the public health community’s role in preparing for and responding to disasters through case studies, discussion, debate, and material related to the national public health preparedness infrastructure. Juniors and seniors Public Health Studies majors only. Gordis Teaching Fellowship course. Recommended Course Background: AS.280.335
Instructor(s): N. Errett
Area: Social and Behavioral Sciences.

AS.280.409. Health Systems Challenges from Chronic Diseases in Low and Middle Income Countries. 3.0 Credits.
This course provides a multidimensional health systems approach to chronic diseases, presently the largest population health burden in low and middle income countries. Learning tools include patient interviews, in-class debates, and country case studies. Recommended course background: AS.280.350: Fundamentals of Epidemiology. Gordis Teaching Fellowship course open to junior and seniors only.
Instructor(s): M. Socal
Area: Social and Behavioral Sciences.

AS.280.411. "Where You Live Matters": The Role of "Place" in Racial/ Ethnic Health Disparities. 3.0 Credits.
This course will critically examine the impact of place of residence on health outcomes, and on racial/ethnic health disparities. This will be accomplished by examining different definitions and levels of "place", and assessing the impact of each on various health outcomes and racial/ethnic health disparities. The role of "place" will be examined in the development of interventions targeting racial/ethnic health disparities. Juniors and seniors Public Health Studies majors only. Gordis Teaching Fellowship course.
Instructor(s): C. Bell
Area: Social and Behavioral Sciences.

AS.280.413. Information Communication Technology (e/mHealth) for Health Systems Strengthening. 3.0 Credits.
This course explores the emerging landscape of information and communication technology in public health, such as e/mHealth, through concepts and frameworks of health systems research with a focus on low and middle income countries (LMICs). It is designed to comprehensively address various aspects of e/mHealth including policy aspects of health systems governance, community aspects of health service delivery, economic aspects of the healthcare market, technological aspects of health information infrastructure, and individual aspects of self-monitoring/management. Multidisciplinary approaches will be encouraged to understand complex public health challenges and to suggest creative yet feasible solutions in low resource settings. Successful e/mHealth use cases across countries with various health system contexts will be introduced and discussed. The course is intended for undergraduate students interested in how information and communication technology is likely to affect health care in the future. Gordis Teaching Fellowship course open to Junior and Senior Public Health Majors only.
Instructor(s): Y. Jo
Area: Social and Behavioral Sciences.

AS.280.414. Leading Health Care Organizations. 3.0 Credits.
This seminar course is designed for students who seek an understanding of how to manage health care organizations including management processes, organizational structures, types of governance models and management issues of health care delivery systems. This course is designed to provide participants with an understanding of leadership and organizational behavior within health care organizations (HCOs). In this course, students will become skilled at identifying the forces that challenge the effective management of HCOs at multiple levels – individual, group and organization. Moreover, they will become skilled at developing and analyzing efforts to improve HCOs' performance. Through case studies, readings, in-class exercises and class discussions, participants will learn analytic frameworks, concepts, tools and skills necessary for leading and management organizational learning, innovation and overall performance improvement in health care organizations. Gordis Teaching Fellowship course open to junior and seniors only.
Instructor(s): K. Henderson
Area: Social and Behavioral Sciences.

AS.280.415. Comparative Health Systems and Health Reform. 3.0 Credits.
The course explores the structural components of modern health care systems through a comparative approach. Students will develop a toolkit for analyzing how the financing, payment, and organization of health service provision determine system performance. Student teams will analyze a health system component and develop health reform recommendations for advancing the often-competing goals of improved population health, financial protection, and public satisfaction. They will also learn how to enhance the political feasibility of technically rigorous reforms through rational design and political stakeholder analysis. Theoretical frameworks utilized by international aid organizations and think tanks will be supplemented by case studies, hands-on class activities, and team projects to encourage active student learning. Gordis Teaching Fellowship course open to Junior and Senior Public Health Majors only.
Instructor(s): N. Done
Area: Social and Behavioral Sciences.
AS.280.416. Nutrition and Immunology in Chronic Disease. 3.0 Credits.
This course provides an overview of basic immunology and nutrition through the review of published chronic disease research. By careful reading and critique of published literature, students will learn to interpret scientific studies on nutrition and chronic disease. This course will cover a variety of globally important chronic diseases such as type II diabetes, heart disease and cancer. Course sessions will include lectures on the basics of nutrition and immunology, seminar sessions to critically evaluate published research findings and group presentations. Recommended prerequisite: Introductory Biology. Gordis Teaching Fellowship course open to junior and seniors only.
Instructor(s): J. Fontes
Area: Natural Sciences.

AS.280.417. Mental Health in Humanitarian Emergencies. 3.0 Credits.
This course will serve as an introduction to mental health in humanitarian emergencies. The course focuses both on mental health disorders (PTSD, anxiety, depression and substance abuse) and well-being (functionality, self-esteem, hope, and pro-social behavior). Assessment of mental health in humanitarian emergencies will include identification of risk factors and protective factors that impact mental health disorders and promote well-being. Coursework will include exploration of ways gender, age, political climate, environmental factors, and social and cultural norms impact mental health. Furthermore, the course will consider development of mental interventions for specific cultural contexts and evaluation of the effectiveness of interventions in meeting mental health needs in the short and long-term. Class sessions will be built around case studies from various countries and include contexts of natural disasters, armed conflict and complex emergencies. Gordis Teaching Fellowship course open to junior and seniors only.
Instructor(s): M. Cherewick
Area: Social and Behavioral Sciences.

AS.280.418. Introduction to Public Health Genomics. 3.0 Credits.
Advances in genomic medicine and technology have presented both opportunities and challenges for public health. Through lectures and case studies, the first half of the course will provide an historical overview and raise contemporary issues related to genomics at the individual, public and policy level. In the second half of the course, students will critically analyze psychosocial, behavioral, ethical and legal issues arising from increasingly widespread access to genetic technologies and information. Topics will cover the use of routine testing (prenatal testing, newborn screening and predictive testing for adult-onset conditions) and emerging technologies capable of whole genome sequencing, direct-to-consumer marketing of various kinds of genetic testing, pharmacogenomics and personalized medicine. Gordis Teaching Fellowship course open to junior and seniors only.
Instructor(s): Y. Guan
Area: Social and Behavioral Sciences.

AS.280.419. Introduction to Practical Data Analysis in Medicine and Public Health. 3.0 Credits.
The course is designed to introduce undergraduate public health majors to the methodology of data analysis, such as how to apply previously learned statistical methods in the performance of data analysis in medical and public health research. This course is unique in that it focuses on all parts of the data analysis process, from formulating a research question to synthesizing the results. While the emphasis is placed on developing and implementing various methods of data analysis, the course will also address interpreting and evaluating the strengths and limitations of existing data analyses. Students’ understanding will be solidified through small in-class activities that explore the data analysis process and evaluations of data analyses in the scientific literature, culminating in a final data analysis project relevant to their own areas of expertise for the purpose of incorporating knowledge gained from the course into their research. Gordis Teaching Fellowship course open to sophomore, junior, and seniors who have taken AS.280.345: Public Health Biostatistics.
Prerequisites: AS.280.345
Instructor(s): T. Usher
Area: Quantitative and Mathematical Sciences.

AS.280.420. Global Food and Nutrition Security. 3.0 Credits.
This course examines food insecurity in low and middle income countries from a public health nutrition perspective. Students will explore food insecurity as a complex phenomenon linked to important issues in global development and public health. Recommended prior course, either Issues in International Development or Global Health Principles & Practices. Gordis Teaching Fellowship course open to junior and seniors only.
Instructor(s): B. Caswell
Area: Social and Behavioral Sciences.

AS.280.421. Telling Public Health Stories through Maps. 3.0 Credits.
Maps play an increasingly central role in conceptualizing, investigating, and communicating many types of public health concerns. This semester-long course is intended for undergraduate students in their junior or senior year who are familiar with epidemiology and biostatistics. This course will develop the skills needed to create and manipulate spatial information for public health research and communication. The course also prepares students to critically evaluate spatial data and to identify the common pitfalls of map-making. Through a blend of lectures, student seminars, and lab exercises, students will examine and appreciate the history of map-making, its current uses in public health, and future directions of spatial analysis. This course involves active student participation during discussions, short responses to the readings, and culminates in an independent spatial analysis project involving Geographic Information Systems (GIS) software. Basic knowledge of biostatistics and epidemiology are recommended pre-requisites. Juniors/Seniors Only. Gordis Teaching Fellowship course
Instructor(s): B. Davis
Area: Quantitative and Mathematical Sciences, Social and Behavioral Sciences.
AS.280.422. Health Equity and Disparities: Addressing Complex Global Health Challenges. 3.0 Credits.
In this course, students will be supported and challenged to develop a personal understanding of and perspective on global health equity and disparities, and acquire a toolbox of frameworks and strategies to use in addressing them. Students will have the opportunity to be exposed to numerous examples and case studies to gain experience in assessing and addressing issues of equity in the complex, real-life problems such as those they will be facing as public health professionals. Students will review major historical and contemporary global and national initiatives to address equity issues in the health sector, including global declarations and reports as well as policies and programs that have been developed to achieve improvements in health equity in specific contexts. Application of this historical and practical knowledge and their own perspectives to new and complex situations will be fostered throughout the course. Basic knowledge of biostatistics and epidemiology and courses on global health or international public health issues recommended pre-requisites. Juniors/Seniors only. Gordis Teaching Fellowship course
Instructor(s): M. Schleiff
Area: Social and Behavioral Sciences.

AS.280.423. Data Visualization for Individualized Health. 3.0 Credits.
This course will explore how biostatistics and data visualization can be used to improve patient care and health outcomes. Students will learn and apply key concepts of effective data visualization to applications in individualized medicine. Teams of students will work with clinician-partners of the Hopkins Individualized Health Initiative (http://hopkinsinhealth.jhu.edu) to produce interactive web applications (http://shiny.rstudio.com) that support clinical decision-making by communicating a patient's health state, prognosis, or expected treatment outcomes. R programming experience (AS.280.419, AS.280.346, or R programming course in coursera (https://coursera.org/course/rprog)) is necessary before the start of this course.
Prerequisites: Prereq: AS.280.345
Instructor(s): R. Coley
Area: Quantitative and Mathematical Sciences.

AS.280.424. The Quest for Effective Universal Health Coverage in Low and Middle Income Countries. 3.0 Credits.
This course examines the movement to achieve effective universal health coverage with a particular focus on MICCs. It provides foundational grounding on health systems thinking to understand the key components of effective UHC and accordingly analyzes country cases to demonstrate lessons from health reforms in five LMICs.
Instructor(s): A. Bhadelia
Area: Social and Behavioral Sciences.

An elective for upper-level public health studies students with a strong biology background that reviews the basics of immunology and cancer biology, and then delves into how treatments at the interface are sparking a paradigm shift in how we understand and treat cancer. Special interest will be taken in the public health repercussions of this change in thinking and treatment. Students apply this knowledge by analyzing topics of current and potential immunotherapies such as cancer vaccinations, adoptive cell transfer therapies, immune checkpoint inhibitors, and more. Course format will be a combination of lecture and active learning activities such as facilitated discussions, case study analysis, and role-plays of system actions. Juniors/Seniors only.
Prerequisites: AS.020.151 OR AS.020.152 OR AS.020.243 OR AS.020.123 OR AP Biology
Instructor(s): J. Gordy
Area: Natural Sciences.

AS.280.426. Ethics of Obesity Prevention. 3.0 Credits.
This course introduces undergraduate PHS students to ethical issue of obesity prevention in public health, and how these issues have influenced the success or failure of past and current intervention efforts. Students explore the multiple perspectives of each issue, and use an ethical framework to learn how to address the ethical challenges associated with the development of obesity intervention programs and policy. Juniors/Seniors only.
Instructor(s): L. Redmond
Area: Social and Behavioral Sciences.

AS.280.427. Communicating Science: Skills to Analyze and Communicate Science News. 3.0 Credits.
Science communication is challenging. Experts are seldom trained to translate jargon in everyday language. In this course students will expand their knowledge of the biology basics of several public health issues, develop the critical thinking needed to assess health science reporting, and practice science communication skills.
Prerequisites: Prereq: AS.020.151 OR AS.020.152 OR AS.020.243 OR AS.020.123 OR AP Biology
Instructor(s): N. Martin
Area: Humanities, Natural Sciences.

AS.280.428. Environmental Health and Disasters. 3.0 Credits.
Environmental Health and Disasters examines the core principles and applications of environmental health science in disaster and humanitarian emergency response. Lecture topics range from emerging infectious diseases to toxicology to climate change. Students will have the opportunity to apply lessons learned through completion of weekly in-class case studies based on recent global events. Juniors/Seniors only
Instructor(s): J. Freeman
Area: Natural Sciences, Social and Behavioral Sciences.
AS.280.429. An Introduction to Public Health Evaluation Using Population-Based Survey. 3.0 Credits.

Students will be introduced to key concepts for public health program evaluation, including how to develop evaluation research questions, common evaluation study designs, and aspects of study implementation including sample size calculation and questionnaire development. Students will become familiar with how to analyze datasets to answer global health evaluation research questions, and effectively interpret and summarize evaluation study results for key audiences. Students will get hands-on experience working with a Demographic and Health Survey (DHS) dataset to apply skills learned in each module. The DHS program provides indicators in areas of population, health, and nutrition from more than 300 surveys in 90 countries (see www.dhsprogram.com). Juniors/ Seniors only
Instructor(s): E. Carter
Area: Quantitative and Mathematical Sciences, Social and Behavioral Sciences.

AS.280.430. Communicating Public Health Findings Through Research-Based Theatre. 3.0 Credits.

Results of public health research have the potential to catalyze positive social change, yet often need to be creatively communicated to target audiences in order to produce meaningful effects. Research-based theatre is gaining traction in the health and social sciences as a compelling and effective means of disseminating research findings to audiences beyond those that typically read scientific journal articles. Equipped with the results of a recent mixed-methods study of sexual violence on JHU campuses, students will collaboratively prepare a messaging strategy, a research-based script, print/digital materials, and an audience evaluation plan for a live campus dissemination event at the end of the semester.
Instructor(s): E. Hurley
Area: Humanities, Social and Behavioral Sciences.

AS.280.431. Beyond Borders: Migration, Ethics, and Public Health. 3.0 Credits.

This course explores the public health, ethical, and policy implications of international human migration both globally and within the United States. It is intended for upper-level undergraduate students interested in bioethics, migration, public health, and political philosophy. The first part of the course acquaints students with the various types of migrants and relevant political theory, including citizenship, freedom of movement, open/closed borders, and human rights. In the second part of the course, students discuss different ethical/philosophical concepts related to migration and apply them in analysis of a wide variety of public health and health policy cases. The course culminates with a final paper that students workshop collaboratively. This course challenges students to draw connections between ethical theory and real-world events and policies involving human migration. This is a Gordis Teaching Fellowship course.
Instructor(s): R. Fabi
Area: Social and Behavioral Sciences.

AS.280.432. Statistical Thinking for Informed Decision Making. 3.0 Credits.

Much of the science that we are exposed to on a daily basis is not through original research articles but through sources such as news reports, articles from content aggregators, and social media postings. While these convenient sources of information can be useful in some respects, it is important to read the original scientific articles on which these reports are based. Only in this way can we better understand the state of science on the issues we care about. In this course, students will primarily learn about statistical concepts within the domains of association studies, causal inference, survey analysis, and survival analysis that provide the background necessary to read a wide variety of primary research in public health. Required readings from a custom course textbook will be supplemented by in-class lecture, discussion, and guided simulation exercises. Simulation exercises will use the Shiny environment in the R programming language which allows for point-and-click style exploration and does not require any coding. All code used to create these simulation activities will be made available so that students familiar with R or who want to learn more have the chance to explore on their own time. Secondary goals of the class include (1) examining the differences between information contained in original research articles and secondary sources and (2) improving written and oral communication about statistical ideas.
Prerequisites: AS.280.345 or EN.553.112 or EN.550.211
Instructor(s): L. Myint
Area: Quantitative and Mathematical Sciences.

AS.280.433. How to Feed the World: Perspectives in Global Food and Nutrition Security. 3.0 Credits.

How do we produce not only enough food, but enough of the right kinds of food, to nourish a growing population? In this course we define global food security and position it within the landscape of nutritional problems. We then discuss key challenges associated with food production and food distribution including climate change, weak supply chains, and changing dietary patterns. Finally, we learn about current efforts to improve global food security through policies, programs, and new technologies. This course is suitable for students with an interest in food, nutrition, global health, environmental sustainability, and complex systems.
Instructor(s): M. Spiker
Area: Social and Behavioral Sciences.

AS.280.434. Public Health Nutrition in Latin America. 3.0 Credits.

This course examines drivers and determinants of health in Latin American population from a public health nutrition perspective. Students will be able to discuss the Global Nutrition Transition framework, drawing from historical public health nutrition issues in Latin America to understand current diet-related concerns and the state of science on the issues we care about. In this course, students will be constantly reflecting on past and current issues and lessons learned from these countries. By the end of this course, students will be able to propose future public health policies and strategies to improve the nutritional profile of the Latin American population both in Latin American Countries and in Latino immigrant communities here in the United States. Gordis Teaching Fellowship course open to junior and seniors only.
Instructor(s): A. Trude
Area: Social and Behavioral Sciences.
AS.280.435. Alcohol Use and Social Disparities: A Public Health Perspective. 3.0 Credits.
This upper-level course examines alcohol use from an ethical, epidemiological, and social justice perspective. The course is structured in three parts: 1.) Ethical issues in alcohol-related harms, 2.) Alcohol and marginalized populations, and 3.) Alcohol and injustice. This course models how to frame a complex problem from a public health perspective and teaches students to critically engage with social justice concepts. This seminar-format course incorporates guest lectures, small group exercises, case studies, and role plays. Gordis Teaching Fellowship course open to juniors and seniors.
Instructor(s): P. Trangenstein
Area: Social and Behavioral Sciences.

AS.280.436. Using Secondary Data to Conduct Public Health Research. 3.0 Credits.
Students will learn how to use administrative claims, electronic health records, and other secondary data sources to conduct public health research. The course will address privacy issues, data cleaning, creation of new variables, missing data, and documentation of data analysis decisions. Students will have the opportunity to apply course concepts to real data sets. This course is intended for undergraduates in their junior or senior year who are interested in conducting public health research with large, secondary data sets. AS.280.345 (Public Health Biostatistics) OR other introductory statistics class required. Some familiarity with R is recommended, but not required. This is a Gordis Teaching Fellowship course.
Prerequisites: AS.200.314 OR AS.230.205 OR AS.280.345 OR EN.550.211 OR EN.550.310 OR EN.550.311 OR EN.550.413 OR EN.550.420 OR EN.550.430 OR EN.560.348
Instructor(s): S. Heins
Area: Quantitative and Mathematical Sciences.

AS.280.437. Saving Newborn Lives in Low Resource Settings. 3.0 Credits.
Child mortality has declined precipitously over the past 25 years, but neonatal mortality has remained largely unchanged. Today, around the world, 45 percent of all child mortality occurs in newborns, and these deaths are overwhelmingly in low-income countries. Prematurity, events during childbirth, and infections like pneumonia and sepsis are the largest killers of newborns, and most of these deaths could be prevented with quality care during childbirth. Students will spend the first half of the course learning the direct and indirect causes of perinatal and newborn mortality and interventions that have been proven to prevent perinatal and newborn deaths in low resource settings, such as skilled birth attendance, essential newborn care, helping babies breathe, kangaroo mother care, and treatment of the sick newborn. Students will spend the second half of the course working in teams to critically evaluate newborn health in a chosen country and propose a solution that will reduce perinatal and newborn deaths. Students will have the opportunity to present their final project design to a panel of professionals working in international public health. This class is designed to be highly engaging, so students should come prepared to work in groups, debate ideas, and discuss their points of view. Students will also have the opportunity to learn how to treat a newborn who is not breathing at birth, and simulate kangaroo mother care for thermoregulation. This is a Gordis Teaching Fellowship course.
Prerequisites: (AS.280.225 OR AS.280.380) AND AS.280.350
Instructor(s): A. Bear
Area: Social and Behavioral Sciences.

AS.280.438. Reproductive Health in Crisis: Issues in Meeting the Needs of Vulnerable Populations. 3.0 Credits.
Introduces students to the reproductive health needs of over 65 million people affected by humanitarian, economic, and environmental crises globally. Presents an overview of health care delivery systems in a variety of contexts, and examines the reproductive health consequences of disruptions in service provision during times of crisis. Examines the impact of policies and programs targeting affected groups. Discusses international standards in humanitarian response. Includes discussion of maternal and newborn health, family planning, abortion, and gender based violence. Students develop competency to conduct reproductive health needs assessments and design an emergency preparedness plan that ensures provision of essential care. For the final project, students apply their skills to plan a response program to meet the reproductive health needs of a specific crisis-affected population. This is a Gordis Teaching Fellowship course.
Instructor(s): L. Collins
Area: Social and Behavioral Sciences.

AS.280.439. Ecological Change and Infectious Disease. 3.0 Credits.
This course will introduce students to key concepts in infectious disease ecology and epidemiology. Students will also learn how key ecological changes are influencing infectious disease dynamics. Ecological changes explored in the course include climate change, water management, deforestation, agriculture, and urbanization. Gordis Teaching Fellowship course. Priority registration is given to Public Health Studies majors. Other students will be permitted to register as space allows.
Prerequisites: AS.280.350 can be taken concurrently; AS.280.335
Instructor(s): A. Lorentz
Area: Natural Sciences.

AS.280.440. Introduction to Harm Reduction: Principles and Examples in Public Health. 3.0 Credits.
Harm reduction is an increasingly popular paradigm in public health research and practice. This course introduces students to the principles of and current research in harm reduction. The class will focus on a) history and principles of harm reduction, and appropriate research methods; b) harm reduction & substance abuse and policy; c) harm reduction & sexual health and sex work; d) ethical considerations in harm reduction. This seminar-format course uses journal clubs, small group discussions, and interactive debates. Gordis Teaching Fellowship course. Priority registration is given to Public Health Studies majors. Other students will be permitted to register as space allows.
Prerequisites: AS.280.345 OR EN.553.112 OR EN.550.112 OR EN.553.211 OR EN.550.211
Instructor(s): C. Tomko
Area: Quantitative and Mathematical Sciences.
AS.280.441. Social Media and Public Health. 3.0 Credits.
This upper-level undergraduate research methods design course explores the growing role of social media in public health research. The course first introduces the current social media landscape, tying in different public health and health communication theories of importance to social media research. This is followed by a discussion of qualitative and quantitative research methods that have been used to conduct social media research, as well as the unique ethical considerations presented by this novel field. The course will then delve into each type of social media platform in depth, discussing how public health research has been conducted and how this ever-changing field continues to move forward. By the end of the course, students will have given explicit consideration to the strengths and challenges posed by conducting social media research in public health, and will be able to apply social media research methods to a public health issue of their interest. Some background in research methods is preferred but not required. Gordis Teaching Fellowship course. Priority registration is given to Public Health Studies majors. Other students will be permitted to register as space allows.
Instructor(s): Y. Rivera
Area: Social and Behavioral Sciences.

AS.280.442. Genetics and Public Health. 3.0 Credits.
DNA is the code of life and variability in this code can be critical in determining human health outcomes. In a post-genomic era with increasingly advanced genetic tools and data it is critical for future public health professionals to understand the role that genetics plays in disease on the individual and population level. More and more, genetics is instructing public health interventions by informing individuals of their risk of acquiring certain diseases, explaining disease etiology, guiding treatment options in the wake of personalized medicine, and may dictate the future of genetic-based disease treatment in the form of gene therapy. The goal of this semester long course is to expand upon basic genetic concepts and apply them to understanding how variation in the human genome can impact health outcomes and inform treatment. We will look at how genetic diseases are inherited, the various ways in which they can manifest as pathology, and how they are discovered and diagnosed. We will also learn how to interpret genome wide association studies and genetic test results and explore the field of genetic counseling. We will finish by looking at the future of genetic medicine by looking at and genetic test results and explore the field of genetic counseling. By the end of the course, students will have given explicit consideration to the strengths and challenges posed by conducting social media research in public health, and will be able to apply social media research methods to a public health issue of their interest. Some background in research methods is preferred but not required. Gordis Teaching Fellowship course. Priority registration is given to Public Health Studies majors. Other students will be permitted to register as space allows.
Instructor(s): K. Heley
Area: Social and Behavioral Sciences.

AS.280.443. Health-Related Stigma: Concepts, Considerations, and Interventions. 3.0 Credits.
Health-related stigma plays an important role in health and social outcomes, however its impact on individuals and populations varies according to context. Through readings, discussions, and assignments, students acquire the framework and skills to conceptualize and assess stigma across a range of health domains. To develop their understanding and analytical approach, students examine examples of HIV/AIDS, smoking, obesity, addiction, and mental health stigma. In each case, students consider key questions including: What are the forms and consequences of stigma? What theories apply? What ethical issues exist? How might interventions minimize or leverage stigma for health promotion? Throughout the semester, students also consider broader questions including: When should interventions target stigma? What are the ethical considerations in health-related stigma research? Is stigma always a threat to health? As the course places a strong emphasis on reading, critiquing, and applying health and social scientific literature, knowledge of or experience with psychology, sociology, ethics, and/or statistics is recommended but not required. Gordis Teaching Fellowship course. Priority registration is given to Public Health Studies majors. Other students will be permitted registration as space allows.
Instructor(s): A. Herbert
Area: Social and Behavioral Sciences
Writing Intensive.

AS.280.495. Honors In Public Health - Seminar. 3.0 Credits.
A research methods seminar to prepare students doing honors in Public Health Studies. Permission Required.
Instructor(s): J. Schrack; M. Bulzacchelli
Area: Social and Behavioral Sciences
Writing Intensive.

AS.280.499. Honors in Public Health. 3.0 Credits.
A research methods seminar to prepare students doing honors in Public Health Studies. Permission Required.
Instructor(s): J. Schrack; M. Bulzacchelli
Area: Social and Behavioral Sciences
Writing Intensive.

AS.280.500. Applied Experience-Public Health. 1.0 - 2.0 Credits.
Perm. Req’d, Public Health Majors Only. This is a supervised, hands-on experience working with public health professionals. Students will complete 80 hours of applied work and will submit a synthesizing assignment at the end of the term. Students completing their AE in the current semester will be enrolled in Section 2. Students whose time will roll over to an additional grading period will be enrolled in Section 1. Please contact your PHS Advisor for complete details.
Instructor(s): L. Folda.

AS.280.501. Internship-Public Health. 1.0 Credit.
Permission Required. Public Health majors only
Instructor(s): K. Henry; L. Folda; L. Foster; M. Bulzacchelli.

AS.280.502. Internship-Public Health. 1.0 Credit.
Permission Required. S/U only.
Instructor(s): K. Henry; L. Folda; L. Foster; M. Bulzacchelli.

AS.280.505. Research in Public Health. 3.0 Credits.
Instructor(s): L. Folda; L. Foster; M. Bulzacchelli.
AS.280.506. Research for Freshmen/Sophomores in Public Health. 0.0 - 3.0 Credits.
Permission Required.
Instructor(s): K. Henry; L. Folda; L. Foster; M. Bulzacchelli; R. Pearlman.

AS.280.507. Independent Study-Public Health. 3.0 Credits.
Public Health majors only. Permission Required.
Instructor(s): K. Henry; L. Folda; L. Foster; M. Bulzacchelli.

AS.280.508. Independent Study-Public Health. 3.0 Credits.
Consult the public health studies adviser for procedure. Permission Required.
Instructor(s): K. Henry; L. Folda; L. Foster; M. Bulzacchelli.

AS.280.511. Research for Juniors/Seniors in Public Health. 3.0 Credits.
Instructor(s): Staff.

AS.280.512. Research for Juniors/Seniors in Public Health. 0.0 - 3.0 Credits.
Restricted to public health studies majors. Consult the public health studies adviser for procedure. Permission Required.
Instructor(s): Staff.

AS.280.590. Internship - Summer. 1.0 Credit.
Instructor(s): K. Gebo; K. Henry; L. Folda; M. Bulzacchelli.

AS.280.596. Independent Study-Summer. 3.0 Credits.
Instructor(s): K. Henry; L. Folda; L. Foster; M. Bulzacchelli.

AS.280.597. Research for Freshmen/Sophomores in Public Health. 3.0 Credits.
Instructor(s): Staff.

AS.280.598. Research for Juniors/Seniors in Public Health. 3.0 Credits.
Instructor(s): K. Henry; L. Folda; L. Foster; M. Bulzacchelli.

Cross Listed Courses

English
AS.060.155. Expository Writing: Introduction to the Research Paper - Controversies in Adolescence. 3.0 Credits.
"Introduction to the Research Paper" is designed to introduce more experienced student writers to the fundamental skills of the research process. These include asking research questions, evaluating the usefulness of sources to answer them, synthesizing sources, reading sources critically, and developing arguments that deliver an original thesis. Students will work with a research librarian at the Eisenhower Library, with whom they will learn to navigate traditional databases as well as new media sources. The Research Paper is topic-based and divided into three linked units of instruction. The course culminates with a paper of 10-12 pages that draws upon the cumulative skills of the semester. Each course is capped at ten students and available only to those who have taken "Expository Writing" (060.113/114)
Instructor(s): A. Watters
Area: Humanities
Writing Intensive.

Anthropology
AS.070.109. Introduction to Environmental Anthropology. 3.0 Credits.
What is an "environment," socially speaking? How have pipelines, animals, conservation, and capitalism shaped the way we talk about "nature" and "society" in the present day? This course examines the mutual transformation of humans and their environments through ethnography, environmental history, cultural and political ecology, human geography, and social theory.
Instructor(s): T. Ozden-schilling
Area: Humanities, Social and Behavioral Sciences.

AS.070.203. Healing: Politics and Poetics. 3.0 Credits.
Metaphors of health and illness; individual and social. The body in pain and the body politic. Ethnographies of historical memory vis-à-vis medicine, epidemics, sacredness, shamanism, terror, humanitarianism, truth and reconciliation.
Instructor(s): J. Obarrio
Area: Humanities, Social and Behavioral Sciences.

AS.070.327. Poverty's Life: Anthropology of Health & Economy. 3.0 Credits.
Medicine, economics, and ethics have profoundly shaped debates on poverty. This course analyzes these debates and tracks the relationships between body, economy, and the everyday. How can anthropological reasoning and methods inform approaches to health and economic scarcity and insecurity?
Instructor(s): C. Han
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

History
AS.100.411. Readings in the History of Public Health in the 20th and 21st Centuries. 3.0 Credits.
The students will read major and some minor works in the history of global public health and will each develop their own concept of how and why the major institutions, professions, and practices associated with public health have evolved over the past long century. To help the students focus on their ideas, they will write three essays on particular aspects of the history.
Instructor(s): L. Galambos
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

History of Science Technology
AS.140.105. History of Medicine. 3.0 Credits.
Course provides an overview of the medical traditions of six ancient cultures; the development of Greek and Islamic traditions in Europe; and the reform and displacement of the Classical traditions during the Scientific Revolution.
Instructor(s): G. Pomata
Area: Humanities, Social and Behavioral Sciences.

AS.140.106. History of Modern Medicine. 3.0 Credits.
The history of Western medicine from the Enlightenment to the present, with emphasis on ideas, science, practices, practitioners, and institutions, and the relationship of these to the broad social context.
Instructor(s): G. Mooney; J. Greene; R. Packard
Area: Humanities, Social and Behavioral Sciences.

AS.140.146. History of Public Health in East Asia. 3.0 Credits.
This course examines the history of disease, epidemics, and public health responses in East Asia from the 17th-20th centuries. This public health history emphasizes the interactions, connections, and comparisons among China, Japan, Korea, and Taiwan.
Instructor(s): M. Hanson
Area: Humanities, Social and Behavioral Sciences
Writing Intensive.

AS.140.156. Harm City? Public Health in Baltimore, 1797 to the present. 3.0 Credits.
Explores the history of public health in urban America using Baltimore as example. Examines topics such as include infectious diseases, mental health, sanitation, rodent control, primary care, substance abuse, and STDs using frameworks of racism, classism, poverty and inequality.
Instructor(s): G. Mooney
Area: Humanities, Social and Behavioral Sciences.
AS.140.176. Public Health in East Asia Through Films & Documentaries. 1.0 Credit.
This course uses contemporary films and documentaries to address issues in public health in East Asia, past & present. Topics covered include medicine in turn-of-the-twentieth century Japan and China, revolutionary medicine, STDs, mental illness, HIV/AIDS in China, industrial pollution, the politics of universal health care insurance, and pandemics in East Asia.
Instructor(s): M. Hanson
Area: Humanities, Social and Behavioral Sciences.

AS.140.311. Ecology, Health, and the Environment. 3.0 Credits.
Explores diverse problems linking ecological, environmental and public health themes, with focus on Chesapeake region. Students’ research projects can be outside Chesapeake region.
Instructor(s): S. Kingsland
Area: Humanities, Social and Behavioral Sciences

Philosophy
AS.150.219. Introduction to Bioethics. 3.0 Credits.
Introduction to a wide range of moral issues arising in the biomedical fields, e.g. physician-assisted suicide, human cloning, abortion, surrogacy, and human subjects research. Cross-listed with Public Health Studies.
Instructor(s): H. Bok
Area: Humanities, Social and Behavioral Sciences

Economics
AS.180.252. Economics of Discrimination. 3.0 Credits.
This course examines labor market discrimination by gender, race and ethnicity in the United States. What does the empirical evidence show, and how can we explain it? How much of the difference in observed outcomes is driven by differences in productivity characteristics and how much is due to discrimination? How have economists theorized about discrimination and what methodologies can be employed to test those theories? What has been the impact of public policy in this area; how do large corporations and educational institutions respond; and what can we learn from landmark lawsuits? The course will reinforce skills relevant to all fields of applied economics, including critical evaluation of the theoretical and empirical literature, the reasoned application of statistical techniques, and analysis of current policy issues. Seniors by Permission Only.
Prerequisites: AS.180.102
Instructor(s): B. Morgan
Area: Social and Behavioral Sciences

AS.180.289. Economics Of Health. 3.0 Credits.
Application of economic concepts and analysis to the health services system. Review of empirical studies of demand for health services, behavior of providers, and relationship of health services to population health levels. Discussion of current policy issues relating to financing and resource allocation.
Prerequisites: AS.180.102
Instructor(s): D. Bishai
Area: Social and Behavioral Sciences.

AS.180.390. Health Economics & Developing Countries. 3.0 Credits.
Prerequisites: AS.180.301 or AS.180.401; Students may not take AS.180.390 if they took AS.180.391.
Instructor(s): M. Gersovitz
Area: Social and Behavioral Sciences

Political Science
AS.190.405. Food Politics. 3.0 Credits.
This course examines the politics of food at the local, national, and global level. Topics include the politics of agricultural subsidies, struggles over genetically modified foods, government efforts at improving food safety, and issues surrounding obesity and nutrition policy. Juniors, seniors, and graduate students only. Cross-listed with Public Health Studies.
Instructor(s): A. Sheingate
Area: Social and Behavioral Sciences

Writing Intensive.

Writing Seminars
AS.220.309. Writing Healthy Baltimore. 3.0 Credits.
Students will explore public health issues in Baltimore and then write about them first in short pieces, and then in longer, polished works. The framework will be the mayor’s Healthy Baltimore 2015 initiative – launched in 2011 to address the city’s top-10 public health problems, including obesity, smoking, drug and alcohol abuse, STDs, cancer, and environmental health hazards. Students will study the initiative and its historical context; examine data sets; explore where and how the initiative intersects with public health practitioners and advocacy groups at the neighborhood level; and write what they learn in different formats, including essays, breaking news, and substance analysis. Students will then “workshop” each other’s papers.
Instructor(s): K. Masterson
Area: Humanities

Writing Intensive.

Sociology
AS.230.150. Issues in International Development. 3.0 Credits.
Why do billions of people continue to live in poverty? What obstacles stand in the way of secure and dignified lives for all? Who is most likely to bring about change, what strategies should they follow, and what kinds of institutions should they put in place? This course will introduce the main theoretical perspectives, debates, and themes in the field of international development since the mid-20th century. It has three sections. The first section focuses on debates over the optimal conditions and strategies for generating economic growth and on the relationship between growth, human welfare, and inequality. The second section presents critical assessments of development interventions from various perspectives. The third section considers the role of social movements in shaping development and social change in the 21st century.
Instructor(s): M. Levien
Area: Social and Behavioral Sciences.

AS.230.154. Freshman Seminar: Gender, Health and Aging. 3.0 Credits.
In this course students will develop an understanding of the ways in which gender structures health and well being through adulthood and later life. The experience of sexual minorities and the intersection of gender with class and ethnicity will also be discussed. Students will be expected to participate actively and lead discussions on specific topics.
Instructor(s): E. Agnew
Area: Social and Behavioral Sciences
AS.230.324. Gender and International Development. 3.0 Credits.
This course employs a comparative perspective to examine the gendered impact of international development experiences and policies. Students will discuss the historical evolution of how the concept of gender has been constructed, conceptualized, and integrated into international development theory and practice. The course will also examine how greater international development. In particular, we will examine structural theories of poverty reduction, individual theories of power and processes of stratification at the household and family level. Specific issue areas will include the globalization, class and work participation and social movements. Cross-listed with International Studies (CR IR). Fulfills Economics requirement for IS GSCD track students only.
Instructor(s): I. Naveh Benjamin
Area: Social and Behavioral Sciences

AS.230.335. Medical Humanitarianism. 3.0 Credits.
Humanitarian organizations play life-preserving roles in global conflicts, and have front-row views of disasters ranging from the 2010 Haiti earthquake to the 2011 Fukushima tsunami in Japan. Yet even while they provide vital assistance to millions of people in crisis, such organizations are beset by important paradoxes that hinder their capacity to create sustainable interventions. They work to fill long-lasting needs, but are prone to moving quickly from one site to the next in search of the latest emergency. They strive to be apolitical, yet are invariably influenced by the geopolitical agendas of global powers. How do such contradictions arise, and what is their impact upon millions of aid recipients around the world? Drawing on case studies from South Sudan to Haiti, this course addresses these contradictions by exploring how and why medical aid organizations attempt, and sometimes fail, to reconcile short-term goals, such as immediate life-saving, with long-term missions, such as public health programs and conflict resolution initiatives.
Instructor(s): I. Naveh Benjamin
Area: Social and Behavioral Sciences Writing Intensive.

AS.230.341. Sociology of Health and Illness. 3.0 Credits.
This course introduces students to core concepts that define the sociological approach to health, illness and health care. Topics include: health disparities, social context of health and illness, and the Sociology of Medicine.
Instructor(s): E. Agree
Area: Social and Behavioral Sciences

AS.230.358. The Politics of Mental Health. 3.0 Credits.
This course examines how the psy disciplines – psychology, psychiatry, psychotherapy and related fields – create knowledge about the mind, and how these fields have in turn shaped political and social life since early 20th century. We will explore how the psy disciplines have proven useful to projects of state building by reconstructing the human mind as a calculable, quantifiable entity, one that can be measured and governed across diverse educational, military, and healthcare settings. We will then ask how psychiatric categories such as bipolar disorder and PTSD (post-traumatic stress disorder) were created, and consider their impact on both the legal/medical management of illness and on lay and expert notions of sanity and normality. Finally, we will examine the rising influence of humanitarian mental health interventions, and immerse ourselves in the debates they have engendered concerning the use of psychotherapy to alleviate suffering in war and disaster zones.
Instructor(s): I. Naveh Benjamin
Area: Social and Behavioral Sciences Writing Intensive.

AS.230.393. Global Health and Human Rights. 3.0 Credits.
Is access to healthcare a fundamental human right? If so, then which global actors are obligated to provide healthcare to whom, and for how long? How do meanings of health and illness vary across time and place? And finally, how are human rights principles translated into frontline practice in order to promote well-being? This course takes a critical interdisciplinary approach to these questions through a series of global case studies ranging from humanitarian aid in post-tsunami Sri Lanka to anti-FGM (female genital mutilation) campaigns in Ghana. How do international NGOs, UN bodies, and governments collaborate (or compete) to distribute healthcare in places beset by dire resource shortages? Do human rights principles carry legal weight across borders, and if so, could access to healthcare services and essential medicines be litigated in order to compel governments to provide it? And finally, what cultural assumptions do human rights discourses carry with them, and what happens if rights-based approaches are poorly received by recipient populations? Moving beyond the basic principle of healthcare as a human right, this course aims to bring this idea’s history and politics into focus by offering an in-depth exploration of its ethics and implementation.
Instructor(s): I. Naveh Benjamin
Area: Social and Behavioral Sciences Writing Intensive.

Earth Planetary Sciences
AS.270.308. Population/Community Ecology. 3.0 Credits.
This course explores the distribution and abundance of organisms and their interactions. Topics include dynamics and regulation of populations, population interactions (competition, predation, mutualism, parasitism, herbivory), biodiversity, organization of equilibrium and non-equilibrium communities, energy flow, and nutrient cycles in ecosystems. Field trip included. Permission of instructor.
Instructor(s): K. Szlavecz
Area: Natural Sciences.

AS.271.107. Introduction to Sustainability. 3.0 Credits.
Humans are having such a massive impact on Earth systems that some call this the Anthropocene epoch. Should we consider this state of affairs progress or catastrophe? How to we find a sustainable path to the future? This course provides an interdisciplinary introduction to the principles and practice of sustainability, exploring such issues as population, pollution, energy and natural resources, biodiversity, food, justice, and climate change through the lens of systems thinking. Course open to freshmen, sophomores, and juniors. Seniors by instructor permission only.
Instructor(s): R. Kelly

AS.271.360. Climate Change: Science & Policy. 3.0 Credits.
Prereq: 270.103 or permission of instructor. This course will investigate the policy and scientific debate over global warming. It will review the current state of scientific knowledge about climate change, examine the potential impacts and implications of climate change, explore our options for responding to climate change, and discuss the present political debate over global warming.
Instructor(s): B. Zaitchik; D. Waugh
Area: Natural Sciences.
Interdepartmental
AS.360.115. Discover Hopkins Health: Food, Nutrition & Public Health. 1.0 Credit.
With the creation of President Barack Obama’s Task Force on Childhood Obesity, there is finally a national focus on the importance of childhood nutrition. First Lady Michelle Obama spearheads the “Let’s Move!” initiative, dedicated to the goal of eradicating childhood obesity through an emphasis on diet and physical activity. This class will tackle the issue of food, nutrition and health from the ground up; looking at multiple behavioral, cultural, and environmental factors that influence what and why we eat. We will also look at how our food systems and eating habits impact the health of individuals, communities, our country, and the world. In this two week session students will have a variety of experiences including trips to a Baltimore City urban farm, the Maryland Food Bank, farmer’s markets, one of Baltimore’s traditional public markets, and a sustainably-sourced restaurant. Students will hear guest speakers from the academic and government sectors.
Instructor(s): C. Burns; S. Lee; Y. Mui
Area: Social and Behavioral Sciences.

Center for Africana Studies
AS.362.325. The Role of “Place” in Racial Ethnic Health Disparities. 3.0 Credits.
This course will introduce students to racial/ethnic health disparities, the need to examine the role of “place”, give different definitions of “place”, how the characteristics of where people live affects individual’s health, and how this leads to racial/ethnic health disparities. The course will first examine large-scale measures of place, then down to smaller scale measures. Students will discuss various theories generally associated with racial/ethnic health disparities, as well as, the extension of “place” theories to this topic. Students will apply this knowledge through various assignments and activities about racial/ethnic health disparities of interest. These activities include class discussions, group assignments and development of interventions and solution-focused policy recommendations. This course is being offered for sophomores, juniors and seniors who have completed a statistic course or who have received permission from the instructor.
Prerequisites: Students may receive credit for AS.280.411 or AS.362.325, but not both.
Instructor(s): C. Bell
Area: Humanities.

AS.362.371. Public Health Crisis in Africa. 3.0 Credits.
This course examines the historical and current public health crises in Africa. Topics covered include infectious diseases and viral outbreaks, water and food access, sanitation, education, behavioral health, gender equality, health care and health care access, as well as the link between culture, economics and health. Introduction to Epidemiology is recommended but not required.
Instructor(s): M. Smart
Area: Humanities, Social and Behavioral Sciences.

Environmental Health and Engineering
EN.570.108. Introduction Environmental Engineering. 3.0 Credits.
Overview of environmental engineering including water/air quality issues, water supply/wastewater treatment, hazardous/solid waste management, pollution prevention, global environmental issues, public health considerations/environmental laws, regulations and ethics. Cross-listed with Public Health Studies.
Instructor(s): H. Alavi
Area: Engineering.