School of Public Health

About the School of Public Health

The School of Public Health was established in 1978 when Dr. William Bridges established a program to address community health problems. His activity captivated a great deal of press and attracted the attention of Dr. Jarvis Ryals, a neurologist, 1965 UAB graduate, and donor. He initiated the creation of the building that the school now occupies and requested that it be named after his parents.

For over thirty years, the School of Public Health has continued Dr. Bridges’ crusade to improve health and living conditions in local Alabama communities and has expanded that vision to all areas of the world. Through research, education, and community outreach, we address community and global health problems and train the next generation of innovative public health workers.

The mission of the School of Public Health is to lead in developing, disseminating and applying knowledge to prevent disease and promote health in the human population. Because of its inherent breadth, public health is comprised of many disciplines. Thus the school achieves its mission by bringing the various disciplines together to educate individuals who will be working to prevent disease and improve the health of the school’s constituent populations. These individuals include experienced public health and other health professionals, undergraduates with education backgrounds in the sciences, and persons from developing countries with health-related backgrounds. An implicit part of this mission is a commitment to increase and validate, through research and practice, the body of knowledge upon which the school’s educational programs are necessarily based.

Contact Information

Dean: Max Michael, MD
Associate Dean for Graduate Programs: Peter M. Ginter, MBA, PhD
Assistant Dean for Undergraduate Programs: Suzanne E. Judd, PhD
Undergraduate Student Advisor: Nicole Gravitt, MA
Advisor’s Contact Number: (205) 934-7759
Major Offered: Bachelor of Science in Public Health
Minor Offered: Public Health
Website: www.soph.uab.edu/students

BS Public Health Degree Concentrations

The bachelor's degree is designed to give students a foundational understanding of public health issues and methods. The UAB School of Public Health will offer a Bachelor of Science in Public Health with concentrations in the following three areas:

- Environmental Health Sciences Concentration
- Global Health Studies Concentration
- Public Health Concentration

website: http://www.soph.uab.edu/bachelors

Admissions

Undergraduate students admitted to UAB may enroll in the UAB School of Public Health.

UAB Undergraduate Admissions Website: http://www.uab.edu/students/undergraduate-admissions

Bachelor of Science in Public Health

Catalog: https://www.soph.uab.edu/bachelors

Description

The B.S in Public Health degree program will train students in multidisciplinary approaches to public health practice and research. The degree will explore both quantitative and qualitative aspects of public health at all levels of analysis. Graduates will advance, through employment or further education, to become the new generation of public health professionals prepared to face the emerging challenges to human health from a population perspective.

The B.S. degree in Public Health will be offered through the UAB School of Public Health which is the only Council on Education for Public Health (CEPH) accredited degree in the state. The Public Health major will provide a broad and rigorous sequence of courses in biostatistics, epidemiology, public health systems, behavior science, and environmental health sciences. Students must choose one of the following concentrations: public health, environmental health sciences, or global health studies.

Program Completion Requirements

- Credit hours required in major: 27 hours plus a 1 hour first year experience course
- Credit hours required in concentration: 18 hours
- Credit hours in institutional general education or core curriculum: 41 hours
- Credit hours in required or free electives: 34 hours
- Total credit hours required for completion: 120 hours

Major Requirements for Public Health

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>First Year Experience (for students entering UAB w/ less than 24 credit hours earned)</td>
<td></td>
</tr>
<tr>
<td>PUH 101 Transitioning to College, Exploring Public Health</td>
<td>1</td>
</tr>
<tr>
<td>Public Health Core Classes (27 hours)</td>
<td></td>
</tr>
</tbody>
</table>

BS Public Health Competencies

- Understand historical milestones in public health and how they influence current practice.
- Explain disease processes from a biological, environmental, social and behavioral perspective.
- Identify the role of health disparities in studying the health needs of communities and improving population health.
- Describe how data and study design methodology are utilized in quantifying public health problems.
- Communicate public health approaches, messages, and findings effectively both orally and in writing.
Health Sciences
with a Concentration in Environmental

Major Requirements for Public Health

Environmental Health Sciences Curriculum Planning Sheet

- Please visit the Environmental Health Sciences website for more
  information: http://www.sparkmancenter.org/

Global Health Studies Curriculum Planning Sheet

- Please visit the Sparkman Center website for more information: http://www.sparkmancenter.org/

Undergraduate Program Concentrations

Environmental Health Sciences Concentration

A concentration in Environmental Health Sciences will prepare you to
protect both the environment and workers by identifying and eliminating
health hazards. The environmental health sciences concentration will
teach you to identify toxins and their effects on human and natural
populations. Environmental scientists work in public and private sector
careers to address problems such as pollution, water safety, and
ecosystem protection.

Environmental Health Sciences Curriculum Planning Sheet

- Please visit the Environmental Health Sciences website for more
  information: http://www.sparkmancenter.org/

Major Requirements for Public Health with a Concentration in Environmental Health Sciences

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PUH 201 The Origins of Epidemics: How Public Health Defines Population and Nations</td>
<td>3</td>
</tr>
<tr>
<td>PUH 202 Introduction to Global Health</td>
<td>3</td>
</tr>
<tr>
<td>PUH 204 Health Meets Life: Sex, Drugs, Weight, and other Health Behaviors</td>
<td>3</td>
</tr>
<tr>
<td>PUH 210 Biological Basis of Public Health</td>
<td>3</td>
</tr>
<tr>
<td>PUH 220 Environmental Factors in Public Health</td>
<td>3</td>
</tr>
<tr>
<td>PUH 250 Biostatistics</td>
<td>3</td>
</tr>
<tr>
<td>PUH 302 Epid: Beyond the Outbreak</td>
<td>3</td>
</tr>
<tr>
<td>PUH 307 Public Health Systems</td>
<td>3</td>
</tr>
<tr>
<td>PUH 495 Public Health Capstone Experience</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Hours</strong></td>
<td><strong>28</strong></td>
</tr>
</tbody>
</table>

Click the following link to view undergraduate Public Health Electives: http://catalog.uab.edu/undergraduate/schoolofpublichealth/#courseinventory

Global Health Studies Concentration

As a student in the Global Health Studies concentration you will learn about health conditions that affect people around the world and associated challenges that make these issues difficult to address such as poverty, cultural beliefs, and population dynamics. This program will prepare you to work both locally and globally in public health by studying the effects of disease and learning how to plan and implement public health programs.

Global Health Studies Curriculum Planning Sheet

- Please visit the Sparkman Center website for more information: http://www.sparkmancenter.org/

Major Requirement for Public Health with a Concentration in Global Health Studies

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PUH 332 Global Communicable Disease Challenges (previously GHS 401)</td>
<td>3</td>
</tr>
<tr>
<td>PUH 331 The Rise of Non-Communicable Diseases Globally (previously GHS 301)</td>
<td>3</td>
</tr>
<tr>
<td>PUH 333 Food, Water, and Air: the Global Environment and Health (previously GHS 303)</td>
<td>3</td>
</tr>
<tr>
<td>PUH 432 Global Health Cases (previously GHS 402)</td>
<td>3</td>
</tr>
<tr>
<td><strong>Concentration Electives</strong></td>
<td><strong>6</strong></td>
</tr>
<tr>
<td><strong>Total Hours</strong></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

- Approved Electives for the Global Health Studies concentration include:

Approved Electives for the Environmental Health Sciences concentration include:


Public Health Concentration
Public Health Concentration - Public health is multi-disciplinary. This concentration allows flexibility for the student wishing to sample public health courses from a variety of disciplines.

Public Health Curriculum Planning Sheet

Major Requirements for Public Health with a Concentration in Public Health

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select 6 courses from the following list to total 18 hours for the public health concentration. The concentration should include at least 6 hours from the 400-level and a service learning designated course.</td>
<td>18</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>PUH 321</td>
<td>The Workplace Environment and Worker Safety and Health</td>
</tr>
<tr>
<td>PUH 322</td>
<td>Environmental Justice and Ethics (service learning)</td>
</tr>
<tr>
<td>PUH 331</td>
<td>The Rise of Non-Communicable Diseases Globally</td>
</tr>
<tr>
<td>PUH 332</td>
<td>Global Communicable Disease Challenges</td>
</tr>
<tr>
<td>PUH 333</td>
<td>Food, Water, and Air: the Global Environment and Health (service learning)</td>
</tr>
<tr>
<td>PUH 340</td>
<td>Professionalism in Public Health</td>
</tr>
<tr>
<td>PUH 341</td>
<td>Public Health Preparedness and Emergency Management</td>
</tr>
<tr>
<td>PUH 342</td>
<td>Public Health Disasters</td>
</tr>
<tr>
<td>PUH 350</td>
<td>Beating the Odds: Statistical Modeling and Disease Prediction</td>
</tr>
<tr>
<td>PUH 352</td>
<td>Risk Reporting: Interpreting and Writing Medical News</td>
</tr>
<tr>
<td>PUH 354</td>
<td>Scratching the Iche: Introduction to Infection Control and Hospital Epidemiology</td>
</tr>
<tr>
<td>PUH 405</td>
<td>Managing Public Health Programs</td>
</tr>
<tr>
<td>PUH 421</td>
<td>Nature vs. Nurture: Genes, Environment and Health</td>
</tr>
<tr>
<td>PUH 422</td>
<td>Fundamentals of Toxicology: Poisons and People</td>
</tr>
<tr>
<td>PUH 432</td>
<td>Global Health Cases</td>
</tr>
<tr>
<td>PUH 441</td>
<td>Public Health Law and Policy</td>
</tr>
<tr>
<td>PUH 442</td>
<td>Children and Families: Issues in Health, Poverty, and Policies</td>
</tr>
<tr>
<td>PUH 450</td>
<td>Statistical Programming and Database Analysis</td>
</tr>
<tr>
<td>PUH 491</td>
<td>Directed Study in Public Health</td>
</tr>
<tr>
<td>PUH 498</td>
<td>Special Topics in Public Health</td>
</tr>
<tr>
<td>GHS 320</td>
<td>Global Health Service Learning (service learning)</td>
</tr>
<tr>
<td>GHS 420</td>
<td>Field Studies: Jamaica (service learning)</td>
</tr>
<tr>
<td>GHS 429</td>
<td>Intensive Global Health Training - SIFAT (service learning)</td>
</tr>
<tr>
<td>GHS 430</td>
<td>Global Health Training, SIFAT (service learning)</td>
</tr>
</tbody>
</table>

Three credit hours can pull from one of the following approved courses to apply towards the general public health concentration, if not already being used for the overall degree hours:

ANTH 307, ANTH 319, ANTH 330, ANTH 447, ANTH 435, CHHS 141, CHHS 342, CHHS 402, CHHS 404, CHHS 408, CHHS 421, CHHS 491, DCS 101, DCS 250, IS 415, NTR 222, NTR 320, EPR 350, EPR 414, EPR 420, EPR 425, EPR 455, GEO 109, GEO 415, GEO 491, HC 110, HCM 305, HCM 318, HCM 402, HCM 415, HIM 415, MG 305, PHL 115, PHL 116, PHL 270, SOC 275, SOC 278, SOC 280, SOC 282, SOC 283, SOC 317, SOC 431, SPA 180, SW 203, SW 208, SW 309, SW 428

Minor in Public Health

Public Health is an exciting and growing field of study. The field challenges its professionals to confront complex health issues, such as improving access to health care, controlling infectious disease, and reducing environmental hazards, violence, substance abuse, and injury. A Bachelor in Public Health is an undergraduate degree, which trains students in the essential skills needed to plan, initiate and manage healthcare programs. Research has shown the impact of healthy lifestyles on the rate of incidence of illnesses and on increasing longevity; hence, public health is now considered a very significant area of study.

Catalog: www.soph.uab.edu/minor

Minor Requirements for Public Health

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required Public Health Courses</td>
<td></td>
</tr>
<tr>
<td>PUH 201</td>
<td>The Origins of Epidemics: How Public Health Defines Population and Nations</td>
</tr>
</tbody>
</table>

Elective Courses

Select four from the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>PUH 202</td>
<td>Introduction to Global Health</td>
</tr>
<tr>
<td>PUH 204</td>
<td>Health Meets Life: Sex, Drugs, Weight, and other Health Behaviors</td>
</tr>
<tr>
<td>PUH 210</td>
<td>Biological Basis of Public Health</td>
</tr>
<tr>
<td>PUH 220</td>
<td>Environmental Factors in Public Health</td>
</tr>
<tr>
<td>PUH 250</td>
<td>Biostatistics</td>
</tr>
<tr>
<td>PUH 302</td>
<td>Epid: Beyond the Outbreak</td>
</tr>
<tr>
<td>PUH 307</td>
<td>Public Health Systems</td>
</tr>
</tbody>
</table>

Select one course from approved list. ³

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

Total Hours 18

Number of hours required: 18 hours

- 15 hours offered by the School of Public Health
- 3 hours of electives - The elective may be any course from the approved list below not already being used towards the minor.

Visit the following page to view undergraduate Public Health electives: http://catalog.uab.edu/undergraduate/schoolofpublichealth/#courseinventory
Approved Electives:

Freshman
First Term | Hours | Second Term | Hours |
--- | --- | --- | --- |
FYE | 1 | EH 102 | 3 |
EH 101 | 3 | BY 101 | 3 |
MA 105 | 3 | BY 102 | 1 |
Core Area III course | 4 | Core Area IV course | 3 |
Core Area II course | 3 | Core Area II course | 3 |
Core Area IV course | 3 | Core Area IV course | 3 |
### 14 16

Sophomore
First Term | Hours | Second Term | Hours |
--- | --- | --- | --- |
PUH 201 | 3 | PUH 204 | 3 |
PUH 202 | 3 | PUH 250 | 3 |
Core II Area course | 3 | Core II Area course | 3 |
Core Area IV course | 3 | Core Area IV course | 3 |
General Elective | 3 | General Elective | 3 |
### 15 15

Junior
First Term | Hours | Second Term | Hours |
--- | --- | --- | --- |
PUH 210 | 3 | PUH 302 | 3 |
Concentration course | 3 | Concentration course | 3 |
PUH 220 | 3 | Concentration course | 3 |
General Elective | 6 | General Elective | 6 |
### 15 15

Senior
First Term | Hours | Second Term | Hours |
--- | --- | --- | --- |
PUH 307 | 3 | PUH 495 | 3 |
Concentration course | 3 | Concentration course | 3 |
Concentration course | 3 | General Elective | 9 |
General Elective | 6 | General Elective | 6 |
### 15 15

Total credit hours: 120

GHS-Global Health Studies Courses

GHS 320. Global Health Service Learning. 3 Hours.
This course provides students with an opportunity to apply principles of interprofessional collaboration, community partnerships, and global health in the development and implementation of a project to address a global health problem in collaboration with a community partner. The global health problem may be addressed in collaboration with a partner at a site within the U.S., or at an international site. Students apply concepts and theories related to global health, interprofessional collaboration, team building, community partnerships, and the ecological framework developing and implementing a plan to address a specific global health problem with a community partner.

GHS 420. Field Studies: Jamaica. 3 Hours.
This course is designed for students interested in global health, whether from public health, medicine, nursing, or other allied graduate programs. Key details about this course include: 1) It is focused on community-based approaches to public health, this course emphasizes the integration and application of classroom, laboratory and field experiences in order to foster problem-solving skills for infectious disease ecology, surveillance and control in resource-constrained settings. 2) Lectures will be given online prior to the beginning of the course and briefings will be held in UWI facilities while in Jamaica. 3) The three primary field projects will be malaria surveillance, STD/HIV care and prevention, and water & sanitation. 4) In Jamaica, students will attend briefings, acquire laboratory identification skills and use field techniques to generate and analyze data.

GHS 429. Intensive Global Health Training - SIFAT. 3 Hours.
Become a better Global Citizen by learning critical issues on Household Energy use in the developing world that affect health, environmental sustainability, gender equity, economics, and the development of millions of families and communities globally. Eight days, twelve hours a day.

GHS 430. Global Health Training, SIFAT. 6 Hours.
This two week intensive field training course will take place at SIFAT's 176-acre international training campus in Lineville, AL. Students will attend didactic sessions and participate in hands-on activities and simulations. SIFAT trainers are experienced in international development and cross-cultural dynamics.

PUH-Public Health Courses

PUH 101. Transitioning to College, Exploring Public Health. 1 Hour.
This First Year Experience (FYE) course is for students majoring in or interested in Public Health. It is designed to introduce freshmen to the tools and techniques that will enhance their transition to college and improve their academic success. Goal setting, time management, faculty/peer interaction, and other relevant academic skills will be addressed. Students will also gain an understanding of the various educational opportunities and career options associated with Public Health.

This course explores the richness of public health through its disciplines and its stories to demonstrate how the understanding of the origins of epidemics determines the progress of civilization.
PUH 202. Introduction to Global Health. 3 Hours.
This course is designed to introduce students to the topic of global health and impart a basic understanding of its interdisciplinary nature, successes to date, and current challenges in the field. The first part of the course provides a basic framework for understanding global public health issues and improvement of health at a population level by exposing students to basic public health concepts of disease burden, standard indices for measuring population-based health, and highlighting global epidemiologic trends. Progress towards the Millennium Development Goals will be a focus of discussion. The second section of the course will discuss vulnerable populations and how their specific needs are prioritized and addressed. Third, the class will examine strategies for organization and delivery of health care services at a population level and examine health as a human right. Finally, the course will look at the key institutions and organizations working in tandem with health ministries to address global health and the need for major collaborative initiatives to address health disparities worldwide. This course meets the Core Curriculum requirements for Area IV: Social and Behavioral Sciences.

PUH 204. Health Meets Life: Sex, Drugs, Weight, and other Health Behaviors. 3 Hours.
This course will be structured around lectures, in-class activities, and discussions of lecture, readings, and current events. The successful student will engage in active listening and critical thinking of the topics presented. Students will be evaluated by class participation, projects, and exams.

PUH 205. Promoting Positive Youth Development: Life Hacking 101. 3 Hours.
This undergraduate course will provide an overview of critical health issues in adolescence and review the potential of emerging perspectives to advance adolescent health and promote positive youth development. This course is designed to provide students with the most current knowledge of issues influencing the health and well-being of adolescents. Theoretical frameworks that draw on an ecological perspective will provide a better understanding of how families, peers, schools, neighborhoods, and the larger community influence risk and protective factors in youth. Adolescence is a time of growth and experimentation, a period marked by establishing autonomy and confronting new challenges. Emphasis will be placed on the promotion of positive youth development, and the relevance of adolescent health issues for the science of health behavior and the broader public health arena.

PUH 210. Biological Basis of Public Health. 3 Hours.
This course will consist of lectures and in-class active-learning activities centered on deepening the students’ understanding of the fundamental biological concepts with an emphasis on significant public health problems. Each major system will be presented first as normal physiology, then, how genetics and/or specific exposures (voluntary and involuntary) contribute to diseases of public health significance. Examples may include genetics/genomics with cancer and disease susceptibility; the immune system and infectious diseases; respiratory system with asthma; the nervous system with pesticide exposure; the reproductive system, STIs and reduced fertility; and, fetal development with drug addiction. The relevance for the biological basis of public health will be underscored through a major assignment in which the student will research a current issue in public health, thoroughly explain the biological basis of the condition, identify factors (genetic and non-genetic) that may contribute to the problem, and finally propose interventions (behavior choices, genetic counseling, policy, avoiding or limiting exposures, etc.) that could lead to improvements in public health.

Prerequisites: BY 115 [Min Grade: C] or (BY 101 [Min Grade: C] and BY 102 [Min Grade: C]) or BY 123 [Min Grade: C]

PUH 220. Environmental Factors in Public Health. 3 Hours.
This didactic lecture course open to students from all majors will survey current issues and challenges in our global and local environmental and how those impact our health. It will examine the sources, exposure routes, regulation and health outcomes associated with biological, chemical, and physical agents in the environment, both naturally occurring and man-made. We will examine these agents and how they impact air, water and food quality to cause disease. Regulatory agencies, risk assessment and disaster response and preparedness will be discussed.

PUH 250. Biostatistics. 3 Hours.
Students will gain a thorough understanding of basic analysis methods, elementary concepts, statistical models and applications of probability, commonly used sampling distributions, parametric and nonparametric one and two sample tests, confidence intervals, applications of analysis of two-way contingency table data, simple linear regression, and simple analysis of variance.

Prerequisites: MA 102 [Min Grade: C] or MA 105 [Min Grade: C] or MA 106 [Min Grade: C] or MA 107 [Min Grade: C] or MA 109 [Min Grade: C] or MA 110 [Min Grade: C] or MA 125 [Min Grade: C]

PUH 302. Epid: Beyond the Outbreak. 3 Hours.
The course will provide students with a basic understanding of epidemiology history, methods, and practice. The history of epidemiology will focus on major historical events such as John Snow and the 1854 Broad Street cholera outbreak. The course will also cover basic epidemiologic methods such measures of disease occurrence (e.g., prevalence and incidence) as well as basic study designs such as case-control and cohort studies. Later in the term, students will utilize actual epidemiologic investigations in order to learn how these methods are put into practice. The coursework will focus mostly on discussion for the first part of the course focused on the history of epidemiology. The section on methods will primarily be problem-based, performing basic analysis of epidemiologic data through calculation of prevalence/incidence and measures of association (e.g., prevalence ratio, incidence rate ratio). This work will lead to students to prepare a document on how they would respond to an outbreak in a situation described by the course master. The entire coursework will take place in a lecture format, with the class meeting twice a week.

Prerequisites: MA 105 [Min Grade: C]

PUH 307. Public Health Systems. 3 Hours.
This course provides a comprehensive overview of public health systems in the United States. A public health system is comprised of an array of entities whose unifying mission is to promote health and well-being at the population level. The course will examine the contributions of federal agencies (Centers for Disease Control, Department of Health and Human Services), state/county/city level health departments, and public and private health care providers (hospitals, long-term care facilities, physicians and nurses) to population health.

PUH 321. The Workplace Environment and Worker Safety and Health. 3 Hours.
This course will explore known physical and chemical hazards found in the workplace, and we will combine our technical knowledge with skills to identify and control work-related hazards. We will begin with the importance of key events and milestones in the history of worker safety and health. We will research the ethical, legal and social implications associated with the working environment. We will define the related roles and responsibilities of government, non-government agencies, private organizations, businesses and industry in worker safety and health.
PUH 322. Environmental Justice and Ethics. 3 Hours.
In this course, students will investigate and analyze the disproportionate burdens of environmental contamination and the health disparities affecting communities of color across the U.S. and internationally. Using a broad range of examples we will look at the incidents that lead to this grass roots movement, many of which came from towns and peoples of the Deep South.

PUH 331. The Rise of Non-Communicable Diseases Globally. 3 Hours.
This course provides an introduction to selected key topics in chronic diseases burden endured globally. We will address the following questions: How is it that people in some countries live twice as long as in others? Why is there a rising epidemic of NCDs such as cancer, heart and lung disease, obesity, and diabetes spreading globally? What are the burdens posed by these diseases? What steps are being taken to control it? What key tools are at our disposal? Who are the global actors and stakeholders addressing this global health epidemic? What is the link between globalization and the rise of NCDs?

PUH 332. Global Communicable Disease Challenges. 3 Hours.
This course is designed to introduce students to the major infectious diseases of public health importance globally. Since we cannot cover all infections in depth in the time allowed, we will highlight major categories of infections as well as focus on a few major infections that together cause the greatest morbidity and mortality in children or adults worldwide. The purpose of this course is to equip participants with up-to-date knowledge of resources on major infections of global importance, and their prevention and control strategies.

Prerequisites: (BY 101 [Min Grade: C] and BY 102 [Min Grade: C]) or BY 123 [Min Grade: C]

PUH 333. Food, Water, and Air: the Global Environment and Health. 3 Hours.
This service-learning course will examine food security and nutrition as complex issues of sustainable human development. While learning about food security and nutrition in the classroom, students will gain further understanding of the topic through engaging with non-profit organizations in Birmingham that address food security and nutritional issues. Topics to be covered include issues of availability, access, and use of food in the domestic and global context, as well as current responses and potential solutions. The course will also focus on helping students develop a skill set for global citizenship that includes opportunities for advocacy, leadership, and critical thinking.

PUH 340. Professionalism in Public Health. 3 Hours.
The purpose of this course would be to prepare students to enter the workforce by providing tangible skills including, but not limited to: Ethic of Public Health, Oral and Written Communication, Personal Presentation Skills, Leadership Styles and Working in Teams and Project Management.

PUH 341. Public Health Preparedness and Emergency Management. 3 Hours.
This course will provide participants with an understanding of Public Health Emergency Preparedness (PHEP), exercise development, and evaluation. During this course you will learn how to identify threats within your community, determine what capabilities are most needed to prepare for and meet these threats, and how to develop and evaluate exercises to test knowledge, skills and control strategies.

PUH 342. Public Health Disasters. 3 Hours.
This will be a hybrid of environmental disasters and history and consequences of world disasters.

PUH 350. Beating the Odds: Statistical Modeling and Disease Prediction. 3 Hours.
This class provides an introduction into the commonly used statistical methods that are classified as General Linear Models. By the end of the class, students will be able to build and interpret prediction equations using Simple and Multiple Linear Regression. Students will learn the statistical assumptions of the models and how to check the assumptions. Students will learn how to test group differences within a regression framework (Analysis of Variance), test for group differences while controlling for other variables (Analysis of Covariance). In the last weeks of the class, students will learn how to model categorical outcomes.

Prerequisites: PUH 250 [Min Grade: C]

PUH 352. Risk Reporting: Interpreting and Writing Medical News. 3 Hours.
The main tool that scientists use to describe their work is the peer-reviewed research article. These articles are written for a specialist audience of other scientists and clinicians. However, human research is of interest to patients, policies makers, and other non-scientists. Accurate and appropriate interpretation and evaluation of scientific findings is vitally important to their implementation. In this course students will learn how to read and interpret scientific publications, to critically evaluate scientific publications and media coverage of the publications, and to write articles describing scientific findings in ways that are accessible for a general audience. The first part of the semester will consist of lectures and class discussions including guest lectures by science writers. The later part of the semester will include student-lead discussions of scientific and mass-market articles. Evaluation will be based on reading quizzes, class participation and submission of discussion questions before class periods, written assignments interpreting and evaluating scientific and mass-market articles, and a midterm and final exam.

Prerequisites: PUH 302 [Min Grade: C]

PUH 353. The Domestic Hot Zone: Major Diseases Affecting the U.S.. 3 Hours.
Though infectious diseases still contribute greatly to morbidity in the United States, in the 20th century the causes of mortality in the United States began to shift—known as the epidemiologic transition—from infectious diseases to chronic diseases such as heart disease, cancer, stroke, and diabetes. These four diseases alone account for nearly three-quarters of a trillion dollars in medical expenditure and cause over 1.3 million deaths annually. The purpose of this class is to provide students with detailed knowledge regarding the major diseases that affect the United States, covering both major chronic and infectious diseases. Each week will focus on a disease or family of diseases, and will cover the epidemiology of the disease as well as looking at historical trends in disease incidence and mortality and how the trends have changed in recent years. Students will be graded through the use of take-home assignments, a mid-term examination, and a final examination.

Prerequisites: PUH 302 [Min Grade: C]
PUH 354. Scratching the Iche: Introduction to Infection Control and Hospital Epidemiology. 3 Hours.
This course is designed to focus specifically on concepts involved with performing epidemiological surveillance and research within a hospital setting. With the recent advent of policies set forth by the Affordable Care Act, emphasis has been placed on surveillance and prevention of nosocomial infections in hospitals throughout the country. The course will introduce students to the methodology of infection control in a hospital setting, including how patients are tested for infectious diseases, surveillance methodology, and how an outbreak investigation in a hospital is performed. The course will involve guest lecturers from different departments of the hospital, including but not limited to Infection Control, Patient Safety and Quality, Clinical Laboratory, and Environmental Control. Each week will cover a given topic (e.g., bloodstream and catheter-associated infections, multi-drug resistant pathogens, respiratory diseases). The students will be graded through the use of take-home assignments, a mid-term examination, two case studies, and a group project involving a nosocomial outbreak investigation of an infectious disease of the course master’s choice.
Prerequisites: PUH 302 [Min Grade: C]

PUH 391. Special Topics in Public Health. 1-6 Hour.
This special topics course will be used in the undergraduate program to cover emerging issues or specialized content not represented in the main curriculum.

PUH 405. Managing Public Health Programs. 3 Hours.
This course will consist of lectures and case discussions of management in a public health context. Management involves planning, organizing, directing, and controlling resources to achieve an organizational mission. Following a series of lectures, students will prepare an analysis of an assigned case and present the analysis to the class. Each case analysis presentation will be evaluated by other students and the evaluation presented at a subsequent class meeting. A comprehensive final examination will be administered.

PUH 421. Nature vs. Nurture: Genes, Environment and Health. 3 Hours.
This didactic lecture course will examine how components of the world around us impact our lives and health. The classic battle of nature (genes) vs. nurture (environment) is being replaced with the understanding of how our exposure to our environment impacts gene expression, which can increase (or decrease) our own likelihood of disease. Using everyday, real-world examples we will study the environment-gene interaction and how this helps determine why some people are more disease prone than others. Each example will focus on the underlying science and the medical consequence of exposure, and will also examine exposure prevention strategies for individuals and practical legislation to reduce environmental contamination. Examples will vary from year to year, but damaging examples may include nanoparticles, smog, medical radiation, drugs and alcohol, pesticides, noise, indoor air pollution, toxic metals, plastics, food and water contamination, and sexually transmitted infections. We will also discuss how the environment can positively impact gene expression, and will include discussions of functional foods (i.e. nutraceuticals such as soy, green tea and garlic) and other alternative medicinal therapies. BY 116 or equivalent; completion of or registration in BY210 or BY330 is recommended.

PUH 422. Fundamentals of Toxicology: Poisons and People. 3 Hours.
Basic principles in toxicology will be covered including: dose-response relationships; absorption, distribution, storage, biotransformation and elimination of toxicants; target organ toxicity; mutagenesis and carcinogenesis; and an overview of fate and transport of contaminants in the environment. The course will focus on contaminants of environmental and public health interest and will include the fascinating roles toxins have played in human history.
Prerequisites: PUH 210 [Min Grade: C] and PUH 220 [Min Grade: C]

PUH 432. Global Health Cases. 3 Hours.
Global Health cases refer to instances of health problems that transcend national borders. Diseases are not constrained by borders. Similarly, problems and solutions to these cases are not unique to a particular race, region, socio-political system or even level of economic development. These cases also carry the dubious reputation of having a global political and economic impact. Yet a closer look at site specific successes can yield important lessons about how to tackle the challenges confronting similar cases in other sites.

PUH 436. Maternal and Child Health in Africa and Asia. 3 Hours.
Despite significant advances in global health over the last fifty years, the burden of disease among the maternal and child health (MCH) population in certain areas of the world remains alarmingly high. While child mortality has declined over the last fifty years, maternal and neonatal mortality has seen relatively little improvement, especially in Sub Saharan Africa and South Asia, which bears a disproportionate share of the global burden of maternal and child health disease. Maternal health is especially critical due to the far ranging impact of a maternal death on the family, community, and society. Fortunately, high impact, cost-effective solutions exist to address these highly preventable maternal and child deaths. In this course we will discuss those successful MCH interventions and policies in addition to identifying different barriers and challenges to the implementation and scale up of MCH services in Africa and Asia.

PUH 441. Public Health Law and Policy. 3 Hours.
PUH 441 will be an introductory course in public health law and policy designed for undergraduate students in public health. There are no prerequisites for this course. The purpose of the course is to introduce non-lawyers to the United States legal system and to the basic principles of law relevant to public health practitioners. It is intended to provide students with basic legal knowledge to assist them in communicating with attorneys about potential legal issues that may arise in formulating policy and exercising leadership in health care organizations. An overarching theme of the course is the tension between community interests and individual rights.

This interdisciplinary course will provide students with basic knowledge about current issues in health and society, both globally and domestically that impact the Maternal and Child Health (MCH) population, which broadly includes women of reproductive age, infants, children, and families. The course will include a specific focus on the role of poverty in the health issues of this population.

PUH 450. Statistical Programming and Database Analysis. 3 Hours.
This class provides an introduction into the commonly used statistical programs and teaches the fundamentals of database design. By the end of the class, students will be able to design and build research databases. Students will also be taught how to conduct statistical analyses using EXCEL and SAS.
Prerequisites: PUH 250 [Min Grade: C]
PUH 491. Directed Study in Public Health. 1-6 Hour.
This course is open to junior and senior level undergraduate students to conduct research or explore an approved topic of interest within global health under the supervision of a faculty mentor. This is an individualized course, and students will have individual end of term goals, typically a comprehensive paper and presentation.

PUH 495. Public Health Capstone Experience. 3 Hours.
This course provides students with the opportunity to synthesize information from the various courses and experiences. Students will report on their service learning experience to discuss issues and report activities. Students will present a final report on their experience and how they applied their coursework. Students must have completed 27 hours of PUH coursework and are encouraged to find a community partner for the course prior to the first day of class. This course should be taken in the last two semesters of graduating.

Prerequisites: PUH 493 [Min Grade: C](Can be taken Concurrently)

PUH 498. Special Topics in Public Health. 1-6 Hour.
This special topics course will be used in the undergraduate program to cover emerging issues or specialized content not represented in the main curriculum.