

ROLLINS  
SCHOOL OF  
PUBLIC  
HEALTH



CATALOG

2017 - 2018

Rollins School of Public Health  
Emory University  
1518 Clifton Road, N.E. Atlanta, Georgia 30322

Rollins School of Public Health Admissions and Student Services: 404.727.3956  
Monday–Friday, 8:30 a.m.–5:00 p.m.

See page 244 for additional directory information.

Visit us on the web at [www.sph.emory.edu](http://www.sph.emory.edu).

#### EQUAL OPPORTUNITY POLICY

Emory University is dedicated to providing equal opportunities to all individuals regardless of race, color, religion, ethnic or national origin, gender, genetic information, age, disability, sexual orientation, gender identity, gender expression, and veteran’s status. Emory University does not discriminate in admissions, educational programs, or employment on the basis of any factor stated above or prohibited under applicable law. Students, faculty and staff are assured of participation in university programs and in use of facilities without discrimination. The university also complies with all applicable federal and Georgia statutes and regulations prohibiting unlawful discrimination. All members of the student body, faculty, and staff are expected to assist in making this policy valid in fact. Any inquiries regarding this policy should be directed to the Emory University Office of Equity and Inclusion, 201 Dowman Drive, Administration Building, Suite 305, Atlanta, Georgia 30322. Telephone: 404.727.6123.

#### AFFIRMATIVE ACTION POLICY

Emory University has an approved Affirmative Action Plan and complies with Executive Order 11246, as amended, Section 503 of the Rehabilitation Act Of 1973, the Vietnam Era Veteran’s Readjustment Assistance Act, and applicable regulations thereunder. Any inquiries should be directed to the Emory University Office of Equal Opportunity Programs.

#### AMERICANS WITH DISABILITIES ACT

If you are an individual with a disability and wish to acquire this publication in an alternative format, please contact the associate dean for academic affairs, Rollins School of Public Health, Emory University, 1518 Clifton Road, N.E., Atlanta, Georgia 30322. Telephone: 404.727.7703.

Emory University is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools (1866 Southern Lane, Decatur, Georgia 30033-4097; telephone number 404.679.4501) to award degrees at the associate, bachelor’s, master’s, and doctoral levels.

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There has never been a more exciting or challenging time to enter the field of public health. Today's students must face complex issues, such as AIDS, chronic diseases violence, environmental hazards, access to health care, SARS, bioterrorism, and the reemergence of infectious diseases. The Rollins School of Public Health (RSPH) of Emory University is preparing students to meet these challenges in an environment unique among schools of public health.

Located in Atlanta, often called the "Public Health Capital of the World," the school is adjacent to the U.S. Centers for Disease Control and Prevention. The national headquarters of CARE, the American Cancer Society, the Arthritis Foundation, the Boys and Girls Clubs of America, and The Carter Center are each fewer than five miles from the Rollins School of Public Health. Our students benefit from the school's partnerships with these national and international agencies and with the Georgia Department of Human Resources, district health offices, and local health departments. Each of these relationships provides unique opportunities for faculty and students to engage in hands-on research and actual public health practice.

The RSPH is an integral part of the Robert W. Woodruff Health Sciences Center of Emory University, which has excellent schools of medicine and nursing, and programs in allied health, as well as the research facilities at the Yerkes National Primate Research Center of Emory University. We offer a flexible schedule of classes to accommodate the needs of students who work full or part time. The master of public health and master of science in public health curricula feature basic course work in the student's chosen department. Doctoral programs are offered in biostatistics, epidemiology, behavioral sciences and health education, health services research and health policy, and environmental health sciences. Joint-degree programs are available in conjunction with the schools of business, law, medicine, nursing, physical therapy, physician assistant, and theology, and cross-registration is available with the graduate school.

I am very proud of the school, faculty, staff, and, especially, our students. We welcome applications from individuals interested in combining academic training and knowledge with a commitment to solving the world's health problems. Please visit us in Atlanta or on the web at [www.sph.emory.edu](http://www.sph.emory.edu).

James W. Curran, MD, MPH Dean

Emory considers itself to be a destination university internationally recognized as an inquiry-driven, ethically engaged, and diverse community, whose members work collaboratively for positive transformation in the world through courageous leadership in teaching, research, scholarship, health care, and social action.

Since its founding in 1836, Emory University has grown into a national teaching, research, and service center with an enrollment exceeding 13,380. A coeducational, privately controlled university affiliated with the United Methodist Church, Emory awards more than 2,500 degrees annually. In addition to the Rollins School of Public Health, the University's academic divisions include Emory College and Oxford College, the Laney Graduate School, and the schools of Medicine, Allied Health, Business, Law, Nursing, and Theology.

Among the centers for specialized research and study at Emory are the Winship Cancer Institute, the Center for Ethics in Public Policy and the Professions, the Emory Center for International Studies, the Center for Healthcare Leadership, the Center for AIDS Research, the Center for Molecular Medicine, the Center for Geriatrics, the Center for Clinical Evaluation Sciences, the Emory Vaccine Center, the Center for Research in Faith and Moral Development, the Michael C. Carlos Museum, and the Center for Russian and East European Studies. Campus-based independent affiliates include the African Studies Association, the American Academy of Religion, the Georgia Endowment for the Humanities, and the National Faculty for the Humanities, Arts, and Sciences.

Emory University maintains formal exchange agreements with the following universities abroad: Oxford and Lancaster (England); St Andrews (Scotland); Beijing, Xiamen, and Xi'an Medical (People's Republic of China); Johannes Kepler (Austria); Kobe and Kwansai Gaukuin (Japan); Yonsei (Korea); Augsburg, Berlin, Göttingen, and Regensburg (Germany); University of Trieste (Italy); Montpellier University (France); University of Copenhagen (Denmark); the Pushkin Institute and St. Petersburg State University (Russia); and Tbilisi State University (Republic of Georgia).

Emory boasts an uncommon balance: it generates more research funding than any other university in Georgia, while maintaining a rich tradition of outstanding teaching. Emory also benefits from a student body that is the most ethnically and religiously diverse of any of the top 20 national research universities.

The university has committed its unique combination of resources to address some of the toughest challenges and greatest opportunities facing the world today—from religion, conflict and peace building, to race and social difference, to issues of global health and new understandings of what makes us human.

## The Robert W. Woodruff Health Sciences Center

The Robert W. Woodruff Health Sciences Center joins those components of Emory University concerned with patient care, education of health professionals, research affecting health and illness, and policies for prevention and treatment of disease. The center is named for Robert W. Woodruff, a man whose vision and generosity left a lasting imprint on Emory and the city of Atlanta. The center consists of the following: Emory School of Medicine, Rollins School of Public Health, Nell Hodgson Woodruff School of Nursing, Yerkes National Primate Research Center, Winship Cancer Institute and Emory Healthcare, the largest, most comprehensive health system in Georgia.

## MISSION

*The mission of the Rollins School of Public Health (RSPH) of Emory University is to demonstrate excellence in the discovery, dissemination, and application of knowledge as it trains and supports future leaders in health promotion and disease prevention through organized community efforts around the world.*

At the Rollins School of Public Health (RSPH), students learn to identify, analyze, and intervene in today's most pressing public health issues. The school's location in Atlanta, referred to as the "Public Health Capital of the World," is home to the US Centers for Disease Control and Prevention; CARE; the national home office of the American Cancer Society; The Carter Center; the Arthritis Foundation; the Task Force for Global Health; numerous state and regional health agencies; and the patient care, teaching, and health-related research programs of Emory University's Woodruff Health Sciences Center. This setting is ideal for hands-on research and collaborations with the world's leading public health agencies, as well as interdisciplinary work with national and international organizations.

The program is community oriented, and many students bring actual problem-solving experience with them. Students join the RSPH community from all 50 states and more than 50 foreign countries to contribute to the school and apply knowledge to promote health and prevent disease in human populations.

The school comprises six academic departments: behavioral sciences and health education, biostatistics and bioinformatics, environmental health, epidemiology, health policy and management, and global health. Twenty-one interdisciplinary centers include the Center for Behavioral Health Policy Studies; the Biostatistics Consulting Center; Center for Biomedical Imaging Statistics; Center for Global Safe Water; Center for Injury Control; Center for Public Health Preparedness and Research; Center for Spina Bifida Research, Prevention, and Policy; Emory Center for AIDS Research; Emory Center for Translational and Prevention Science; Emory Center for Training and Technical Assistance; Emory Global Diabetes Research Center; Emory Preparedness and Emergency Response Research Center; Emory Prevention Research Center; Georgia Center for Cancer Statistics; Health and Exposome Research Center – Understanding Lifetime Exposures (HERCULES); Interfaith Health Program; Office of Applied Public Health; Southeastern Institute for Training and Evaluation (SITE); Southeastern Center for Air Pollution and Epidemiology; The Joseph W. Blount Center for Health and Human Rights; and Women's and Children's Center.

More than 180 full-time, doctoral-level faculty members teach and conduct research in areas such as mathematical modeling of infectious disease transmission, exploration of relationships between nutrition and chronic disease, and investigation of cancer causation and control. Other research interests include identifying the social determinants of health-risk behaviors, AIDS, developing church-based health promotion programs to foster changes in nutrition and other health-related behaviors, detecting and preventing adverse outcomes in occupational settings, and evaluating the cost of health care and the allocation of health resources.

The RSPH offers dual-degree programs with Emory's business, medical, nursing, theology, graduate, and law schools, and with the physician's assistant and physical therapy program. In addition to these programs, the schools of public health and medicine collaborate on many levels. Research areas of mutual interest include nutrition, Alzheimer's disease, and the prevention and control of AIDS, cardiovascular disease, cancer, and adverse reproductive outcomes.

The RSPH also draws strength from several unique local resources. The U.S. Centers for Disease Control and Prevention, the federal agency dedicated to developing and applying disease prevention and control programs, provides more than one-half of the school's 200-plus adjunct faculty members. Over 700 RSPH alumni are currently employed by CDC. The Carter Center is involved in global health intervention programs that provide student practicum opportunities. The school also shares research activities with the national headquarters of the American Cancer Society and international headquarters of CARE, both based in Atlanta.



## ROLLINS SCHOOL OF PUBLIC HEALTH OF EMORY UNIVERSITY

### Core Competencies

Upon graduation a student with an MPH/MSPH should be able to:

- Use analytic reasoning and quantitative methods to address questions in public health and population-based research
- Describe environmental conditions, including biological, physical and chemical factors, that affect the health of individuals, communities and populations
- Describe the use of epidemiology methods to study the etiology and control of disease and injury in populations
- Discuss how health policy and finance affect the delivery, quality, access and costs of health care for individuals, communities and populations
- Describe behavioral, social and cultural factors that contribute to the health and well being of individuals, communities and populations
- Assess global forces that influence the health of culturally diverse populations around the world
- Apply skills and knowledge in public health setting(s) through planned and supervised experience(s) related to professional career objectives
- Integrate the broad base of public health knowledge and skills acquired from coursework, practicum and other learning activities into a culminating experience (thesis, Special Studies Project, Capstone)
- Develop the capacity for lifelong learning in public health
- Apply principles of ethical conduct to public health practice

### Department of Behavioral Sciences and Health Education

#### THEORIES & METHODS

- Design and conduct rigorous studies using a wide variety of public health data sources (i.e. primary data collection, secondary data archival data)
- Examine health outcomes for specific populations using theory-driven data analysis techniques
- Apply the socio-ecological framework and theories from diverse fields in describing and influencing health and health inequities
- Design mixed methods surveys and data collection instruments
- Design valid and reliable instruments to measure variables in public health research and evaluation
- Apply psychometric methods to surveys and data collection instruments
- Use evidence-based approaches in the development of innovative health promotion and diverse prevention interventions

- Implement an array of culturally relevant public health intervention strategies to communities in need
- Apply mixed methods (i.e. qualitative and quantitative) to evaluate the evidence for intervention effectiveness
- Evaluate the dissemination, implementation and sustainability of culturally relevant health interventions for the greatest possible improvements in health

#### **PUBLIC HEALTH RESEARCH & PRACTICE**

- Describe the influence of policies, culture, social inequities, and biology across the life course and generational cohorts
- Use community-engaged approaches in assessing community needs and assets, and planning and evaluation programs
- Analyze social, structural, policy and behavioral factors contributing to health
- Design process and outcome evaluations for public health programs, policies, laws, systems, and environmental change
- Engage stakeholders and community members in the planning, implementation, evaluations and sustainability of culturally relevant public health programs, policies and interventions
- Synthesize a range of multidisciplinary scientific literature
- Advocate for individuals' and communities' health
- Utilize diverse dissemination strategies to communicate findings from research and evaluations

#### **PUBLIC HEALTH CONTEXTS**

- Analyze public health history for perspective on current mental health problems
- Describe the role of globalization in public health

#### **ETHICS**

- Practice humility with people of different backgrounds (e.g. cultures, races, ethnic groups, socioeconomic backgrounds)
- Apply ethical principles to public health research, implementation, evaluation, community engagement and dissemination

#### **PROFESSIONAL IDENTITY**

- Develop a public health professional identity
- Operate in a variety of interdisciplinary and inter-professional roles, including performing effectively on diverse teams

#### **LEADERSHIP**

- Demonstrate innovation in addressing health opportunities and challenges
- Manage human, fiscal, and or informatics systems for health promotion and disease prevention

#### **PhD in Behavioral Sciences and Health Education**

Upon completion of the PhD degree the graduate will be able to

- Draw from major social and behavioral science theories to apply appropriate empirical methods and analysis in research practices
- Design health promotion interventions
- Implement health promotion interventions

- Evaluate health promotion interventions
- Disseminate knowledge to students and the larger scientific community
- Translate knowledge derived from research to promote public health through policy making

#### **Certificate in the Socio-Contextual Determinants of Health**

- Upon completion of the certificate the graduate will be able to:
- Identify the causes of social and behavioral factors that affect health of individuals and populations
- Describe the role of social and community factors in both the onset and solution of public health problems
- Describe the merits of social and behavioral science interventions and policies
- Specify multiple targets and levels of intervention for social and behavioral science programs and policies
- Critically evaluate the epidemiologic literature
- Formulate a testable hypothesis to determine an appropriate study design concerning the etiology and control of health problems

#### **Department of Biostatistics and Bioinformatics**

##### **MPH in Biostatistics**

Upon completion of the MPH degree the graduate will be able to:

- Identify biostatistical aspects in contemporary public health issues
- Collaborate with investigators in the design of standard biomedical and public health studies
- Estimate the sample size in the context of a given standard public health study design
- Collaborate with investigators and statistical colleagues in the analysis of data from biomedical and public health studies
- Communicate the results of statistical analyses to a broad audience
- Adhere to guidelines of responsible research
- Identify data sources and research questions associated with a particular application area within public health
- Apply analytic methods to address specific research questions in the particular application area of interest
- Use standard statistical software for both data management and data analysis
- Demonstrate analytic skills within a specified application area
- Complete start-to-finish analyses addressing substantive questions within the application area of interest using standard statistical design and analysis techniques

##### **MSPH in Biostatistics**

- Upon completion of the MSPH degree the graduate will be able to:
- Identify biostatistical aspects in contemporary public health issues
- Collaborate with investigators in the design of standard biomedical and public health studies
- Estimate the sample size in the context of a given standard public health study design
- Collaborate with investigators and statistical colleagues in the analysis of data from biomedical and public health studies
- Communicate the results of statistical analyses to a broad audience
- Adhere to guidelines of responsible research
- Use central concepts in statistical theory and inference
- Use statistical software for both data management and data analyses, including coding of custom techniques

- Apply custom statistical methods as needed to address public health or medical problems
- Demonstrate advanced analytic skills within a collaborative setting
- Demonstrate technical accuracy with advanced analytic methods

#### **MSPH in Public Health Informatics**

Upon completion of the MSPH degree the graduate will be able to:

- Develop public health information systems as needed to support public health efforts
- Evaluate information systems that meet the needs of public health practice
- Assist in the development and adoption of information technology in public health
- Choose software allowing for the interface of data entry and statistical analysis software
- Apply statistical methods in the analysis of public health information
- Assess individual data elements and display results effectively and appropriately
- Adhere to guidelines of responsible research

#### **BA/MSPH in Biostatistics**

The MSPH competencies related to this degree are the same as the MSPH in Biostatistics Competencies.

#### **PhD in Biostatistics**

Upon completion of the PhD degree the graduate will be able to:

- Identify biostatistical aspects in contemporary public health issues
- Collaborate with investigators in the design of standard biomedical and public health studies
- Estimate the sample size in the context of a given standard public health study design
- Collaborate with investigators and statistical colleagues in the analysis of data from biomedical and public health studies
- Communicate the results of statistical analyses to a broad audience
- Adhere to guidelines of responsible research
- Use central concepts in statistical theory and inference
- Use statistical software for both data management and data analyses, including coding of custom techniques
- Demonstrate advanced analytic skills within a collaborative setting
- Demonstrate technical accuracy with advanced analytic methods
- Conduct independent research and develop novel methodology in statistics
- Apply new and existing statistical theory and methods as needed to address public health or medical problems
- Develop new statistical theory and methods to address a broad range of complex medical or public health problems
- Conduct complex statistical analyses for a broad range of applications
- Teach statistical theory or methodology at all levels

#### **Certificate in Public Health Informatics**

Upon completion of the certificate the graduate will be able to:

- Define public health information systems as needed to support public health efforts
- Assist in the development and adoption of appropriate information technology in public health
- Choose appropriate software allowing for the interface of data entry and statistical analysis software
- Apply appropriate statistical methods in the analysis of public health information
- Interpret data results effectively and appropriately
- Adhere to guidelines of responsible research

### **Department of Environmental Health**

#### **MPH in Environmental Health**

Upon completion of the MPH degree the graduate will be able to:

- Describe major environmental risks to human health ranging from the local to global scale
- Assess the sources and movement of contaminants through the environment
- Characterize the magnitude, frequency and duration of environmental exposures
- Apply the principles of toxicology to assess health effects of environmental exposures
- Apply the principles of epidemiology to assess health effects of environmental exposures
- Evaluate the risks posed by environmental hazards using risk assessment methods
- Explain major policy issues in environmental health including regulatory frame-works
- Design environmental health programs, policies, interventions and/or research intended to improve the health of individuals, communities, and populations
- Communicate the key methods, findings and public health implications of research on a poster and verbally to an audience of public health professionals

#### **MPH in Global Environmental Health**

Upon completion of the MPH degree the graduate will be able to:

- Describe major environmental risks to human health ranging from the local to global scale
- Assess the sources and movement of contaminants through the environment
- Characterize the magnitude, frequency, and duration of environmental exposures
- Apply the principles of epidemiology to assess health effects of environmental exposures
- Apply the principles of toxicology to assess health effects of environmental exposures
- Appraise the environmental, behavioral and social factors that contribute to the emergence, re-emergence, and persistence of infectious diseases
- Assess the major forces that influence the health of populations around the world.

- Critique major global priorities and the reasons for their prioritization.
- Design environmental health programs, policies, interventions and/or research intended to improve the health of individuals, communities, and populations
- Communicate the key methods, findings and public health implications of research on a poster and verbally to an audience of public health professionals

### **BS/MPH in Environmental Studies and Environmental Health**

The MPH competencies related to this degree are the same as the MPH in environmental health competencies.

### **MSPH in Environmental Health and Epidemiology**

Upon completion of the MSPH degree the graduate will be able to:

- Describe major environmental risks to human health ranging from the local to global scale
- Characterize the magnitude, frequency and duration of environmental exposures
- Explain major policy issues in environmental health including regulatory frame-works
- Describe the role of toxicology in evaluating health effects of environmental exposures
- Develop an epidemiologic study to address an environmental health question
- Conduct basic epidemiologic analysis of environmental health data
- Interpret results of epidemiologic studies of an environmental health question
- Synthesize epidemiologic literature on an environmental health question
- Communicate the key methods, findings and public health implications of research on a poster and verbally to an audience of public health professionals

### **PhD in Environmental Health Sciences**

Upon completion of the PhD degree the graduate will be able to:

Utilize advanced methods in exposure assessment of environmental contaminants

Interpret advanced methods in exposure assessment of environmental contaminants

- Describe mechanisms of toxic action and how physiological and other factors can modify effects of environmental toxicants
- Use advanced epidemiological methods to examine associations between environmental factors and disease
- Use risk assessment tools to describe the risks associated with various environmental exposures

Design novel research projects to examine key challenges in field

- Identify the ethical issues involved in the responsible conduct of research
- Teach graduate course content in environmental health sciences
- Disseminate research findings in multiple formats

**Certificate in Water, Sanitation, and Hygiene** (offered through the Center for Global Safe Water at Emory University)

Upon completion of the certificate program the student will be able to:

- Describe the multidisciplinary nature of WASH-related issues
- Practice WASH-related laboratory methods
- Examine potential solutions for WASH-related challenges at the household and community level
- Recognize the role in policy in shaping the WASH landscape
- Identify entities working in the WASH sphere
- Generate WASH-related knowledge through practice by completing
  - 1) a capstone or a thesis, and
  - 2) a WASH-related field experience (practicum or GFE)

## **Department of Epidemiology**

### **MPH in Epidemiology**

Upon completion of the MPH degree, the graduate will be able to:

- Describe public health problems in terms of magnitude, time, place, person and their associated risk factors
- Identify principles and limitations of epidemiologic screening programs
- Identify major epidemiologic problems of importance
- Identify key sources of data for epidemiologic purposes
- Formulate a research question
- Differentiate between descriptive and analytic epidemiologic methods
- Critically evaluate the strengths and weaknesses of different study designs with respect to a given research question
- Calculate basic epidemiologic measures
- Implement methods of data cleaning and documentation for epidemiologic data sets
- Conduct basic epidemiologic analyses using linear, logistic, Cox and Poisson regression
- Fit Epidemiologic Models
- Interpret epidemiologic results in a causal framework
- Evaluate the strengths and weaknesses of the epidemiologic literature
- Utilize information technology tools and statistical programming packages in preparing scientific reports
- Communicate epidemiologic information in a scientific report
- Recognize potential ethical and legal issues in epidemiologic studies

**MPH in Global Epidemiology**

Upon completion of the MPH degree the graduate will be able to:

- Describe public health problems in terms of magnitude, time, place, person and their associated risk factors
- Identify principles and limitations of epidemiologic screening programs
- Identify major epidemiologic problems of importance
- Describe major global health priorities and the reasons for their prioritization
- Critique the evidence for improving health delivery systems and health status of individuals, communities and populations around the world
- Assess the major forces that influence the health of populations around the world
- Design programs, policies, and/or interventions intended to improve health services and health status of individuals, communities and populations
- Critique major global priorities and the reason for their prioritization
- Identify key sources of data for epidemiologic purposes
- Formulate a research question
- Differentiate between descriptive and analytic epidemiologic methods
- Critically evaluate the strengths and weaknesses of different study designs with respect to a given research question
- Calculate basic epidemiologic measures
- Implement methods of data cleaning and documentation for epidemiologic data sets
- Conduct basic epidemiologic analyses using linear, logistic, Cox and Poisson regression
- Fit epidemiologic models
- Interpret epidemiologic results in a causal framework
- Evaluate the strengths and weaknesses of the epidemiologic literature
- Utilize information technology tools and statistical programming packages in preparing scientific reports
- Communicate epidemiologic information in a scientific report
- Communicate the key methods, findings, and public health implications of research on a poster and verbally to an audience of public health professionals
- Recognize potential ethical and legal issues in epidemiologic studies

**MSPH in Epidemiology**

Upon completion of the MSPH degree the graduate will be able to:

- Describe public health problems in terms of magnitude, time, place, person and their associated risk factors
- Identify principles and limitations of epidemiologic screening programs
- Identify major epidemiologic problems of importance
- Identify key sources of data for epidemiologic purposes
- Formulate a research question
- Differentiate between descriptive and analytic epidemiologic methods
- Critically evaluate the strengths and weaknesses of different study designs with respect to a given research question.

- Calculate basic epidemiologic measures
- Implement methods of data cleaning and documentation for epidemiologic data sets
- Conduct basic epidemiologic analyses using linear, logistic, Cox and Poisson regression
- Fit Epidemiologic Models
- Interpret epidemiologic results in a causal framework
- Implement causal models for different case-control designs in appropriate fashion
- Analyze advanced case-control and other innovative study designs
- Apply SAS procedures MIXED, GENMOD, GLIMMIX and NLMIXED in the analysis of correlated epidemiologic data
- Conduct epidemiologic studies using longitudinal/correlated data
- Demonstrate mastery of advanced analytic epidemiologic methods
- Evaluate the strengths and weaknesses of the epidemiologic literature
- Utilize information technology tools and statistical programming packages in preparing scientific reports
- Communicate epidemiologic information
- Recognize potential ethical and legal issues in epidemiologic studies

**MSPH in Global Epidemiology**

Upon completion of the MSPH degree the graduate will be able to:

- Describe public health problems in terms of magnitude, time, place, person and their associated risk factors
- Identify principles and limitations of epidemiologic screening programs
- Identify major epidemiologic problems of importance
- Describe major global health priorities and the reasons for their prioritization
- Identify key sources of data for epidemiologic purposes
- Formulate a research question
- Differentiate between descriptive and analytic epidemiologic methods
- Critically evaluate the strengths and weaknesses of different study designs with respect to a given research question
- Calculate basic epidemiologic measures
- Implement methods of data cleaning and documentation for epidemiologic data sets
- Implement causal models for different case-control designs in appropriate fashion
- Analyze advanced case-control and other innovative study designs
- Apply SAS procedures MIXED, GENMOD, GLIMMIX, and NLMIXED in the analysis of correlated epidemiologic data
- Conduct epidemiologic studies using longitudinal/correlated data
- Demonstrate mastery of advanced analytic epidemiologic methods
- Critique the evidence for improving health delivery systems and health status of individuals, communities and populations around the world
- Assess the major forces that influence the health of populations around the world
- Design programs, policies, and/or interventions intended to improve health services and health status of individuals, communities and populations
- Critique major global priorities and the reason for their prioritization
- Conduct basic epidemiologic analyses using linear, logistic, Cox and Poisson regression
- Fit epidemiologic models

- Interpret epidemiologic results in a causal framework
- Evaluate the strengths and weaknesses of the epidemiologic literature
- Utilize information technology tools and statistical programming packages in preparing scientific reports
- Communicate epidemiologic information in a scientific report
- Communicate the key methods, findings, and public health implications of research on a poster and verbally to an audience of public health professionals
- Recognize potential ethical and legal issues in epidemiologic studies

### PhD in Epidemiology

Upon completion of the PhD degree the graduate will be able to:

- Critically evaluate scientific literature
- Synthesize scientific literature findings across studies, balancing limitations and contributions of each study
- Render an informed judgment on the state of knowledge in an area of public health
- Articulate research questions that advance scientific knowledge about the topic
- Conduct an advanced, original research project in the student's discipline:
  - a. Formulate a research question
  - b. Describe the public health significance of the question
  - c. Identify an appropriate study population
  - d. Identify strengths and limitations to different possible study designs
  - e. Evaluate issues related to casual inference including potential sources of bias and ways to limit these biases
- Participate in data collection through one or more of the following: developing a questionnaire, piloting a study instrument, recruiting study participants, etc.
- Apply quantitative and reasoning skills, as well as content-area knowledge to analyze data from epidemiological studies:
  - a. Apply appropriate analytic techniques to control for bias
  - b. Calculate measures of disease frequencies and estimates of effect (both from contingency tables and using models)
  - c. Conduct epidemiologic analysis using linear, logistic, Cox and Poisson regression
  - d. Interpret analytic results in a casual framework
  - e. Identify when consultation with an expert is needed
- Present and communicate epidemiologic findings clearly, in writing and orally, to students, professionals and the public:
  - a. Prepare and submit an abstract for scientific meeting
  - b. Deliver an oral presentation to professional colleagues
  - c. Prepare and submit a manuscript for peer-reviewed journal, including revising and responding to peer-reviewed comments
  - d. Provide peer-reviewed feedback on other manus
- In collaboration with faculty, develop a proposal for extramural research funding:
  - a. Identify appropriate funding opportunities
  - b. Develop general and specific aims, background significance and research narrative
  - c. Participate in developing and assembling other proposal components including budgets, biosketches and human subject protection

- Teach epidemiologic concepts to students and peers
- Complete training on the basic principles of ethics in human subjects research
- Recognize potential ethical issues in epidemiologic studies
- Prepare an application to an Institutional Review Board
- Utilize information technology tools which are critical to scientific productivity:
  - a. Scientific literature databases and search engines (e.g., PubMed, Web of Science, Google Scholar)
  - b. Reference management software (e.g., Endnote, Refman, QUOSA)
  - c. Statistical analysis software (e.g., Stata, SAS, R)

### Certificate in Maternal and Child Health

Upon completion of the certificate the graduate will be able to:

- MCH Knowledge Base/Context
  - Use data to identify issues related to the health status of a particular MCH population group, describing health disparities within MCH populations and offering strategies to address them.
  - Demonstrate the use of a systems approach to explain the interactions among individuals, groups, organizations and communities.
- Self-reflection
  - Use self-reflection techniques effectively to enhance program development, scholarship and interpersonal relationships, recognizing that personal attitudes, beliefs, and experiences (successes and failures) influence one's leadership style.
- Ethics & Professionalism
  - Identify ethical dilemmas and issues that affect MCH population groups.
  - Describe the ethical implications of health disparities within MCH populations with an awareness of ethical issues in patient care, human-subjects research, and public health theory and practice.
  - Initiate and act as catalyst for the discussion of these dilemmas and issues.
- Critical Thinking
  - Identify practices and policies that are not evidence-based but are of sufficient promise that they can be used in situations where actions are needed.
  - Use population data to assist in determining the needs of a population for the purposes of designing programs, formulating policy, etc.
  - Formulate a focused and important practice, research or policy question.
- Communication
  - Share thoughts, ideas, and feelings effectively in discussions, meetings, and presentations with diverse individuals and groups.
  - Write clearly and effectively to express information about issues and services that affect MCH population groups.
  - Understand nonverbal communication cues in self and others.
  - Listen attentively and actively.
- Negotiation & Conflict Resolution
  - Apply strategies and techniques of effective negotiation and evaluate the impact of personal communication and negotiation style on outcomes, demonstrating the ability to manage conflict in a constructive manner.

- Cultural Competency
  - Conduct personal self-assessments regarding cultural competence, assessing strengths of individuals and communities and responding appropriately to their needs based on sensitivity to and respect for their diverse cultural and ethnic backgrounds and socioeconomic status.
  - Describe strategies to assure culturally-sensitive public health and health service delivery systems, integrating cultural competency into programs, research, scholarship, and policies.
- Family-Centered Care
  - Operationalize the “family-centered care” philosophical constructs and use these constructs to critique and strengthen practices, programs, or policies that affect MCH population groups.
  - Describe how family perspectives play a pivotal role in MCH research, clinical practice, programs, or policy.
- Developing Others
  - Recognize and create learning opportunities for others.
  - Participate in a mutually beneficial mentoring relationship.
- Interdisciplinary Team Building
  - Identify strengths of team members appropriate to a given task, and facilitate group processes for team-based decisions valuing and honoring diverse perspectives.
- Working with Communities and Systems
  - Participate in basic strategic planning processes such as developing a mission, vision, strategic goals, and activities, identifying community stakeholders and their level of engagement in the collaboration process.
- Policy and Advocacy
  - Understand the roles and relationships of groups involved in the public policy development and implementation process, including the branches of government.
  - Analyze the potential impact of policies on diverse population groups.
  - Use data, levels of evidence, and evaluative criteria in proposing policy change.
  - Frame problems based on key data, including economic, political, and social trends that affect the MCH population.

### Certificate in Genetic and Molecular Epidemiology

Upon completion of the certificate the graduate will be able to:

1. Describe how knowledge of the genetic and molecular basis for human diseases can be applied in public health research and practice. Describe the importance of genetic epidemiology and molecular epidemiology to public health.
2. Identify key principles and methods for biological sample collection, including informed consent, sample handling and biobanking (e.g., chain of custody, quality assurance, use of samples and data).
3. Describe how genetic and molecular data are generated, including basic knowledge of current laboratory technologies. Describe the latest technologies in molecular and genomic data generation used to investigate disease, pathogenesis, and normal variation of traits. Identify potential sources of error and bias from technical and biological artifacts.
4. Recognize how molecular biology, biomarkers, and genetics can be incorporated into the design, analysis, and interpretation of epidemiological studies, including integration of findings from other genetic/molecular studies.
  - a. Describe the major genetic epidemiologic research study designs and their advantages and limitations. Apply knowledge of inheritance to understanding the genetic architecture of diseases and health conditions.

- b. Describe the major molecular epidemiologic research study designs and their advantages and limitations.
5. Justify the roles of: epidemiologists, clinicians, basic scientists, bioinformaticians and statisticians in the design, analysis, and interpretation of epidemiological studies that incorporate genetic and molecular data.
6. Describe the ways that genetic and molecular tests are currently deployed in public health practice (e.g., blood lipids screening, illicit drug and alcohol screening, foodborne outbreak investigations, influenza vaccination targeting, blood lead screening, genetic screening of newborn and prenatal genetic testing, precision targeting of tumor biomarkers, BRCA1 sequencing; microarray testing in intellectual disability, disease transmission modeling).
7. Interpret and critique published epidemiologic research studies that include genetic and molecular data, including the design and analysis of validation studies (for biomarkers) and/or replication studies (for genetic association studies). Demonstrate the ability to explain, both orally and in writing, the findings and implications of molecular and genetic epidemiologic studies.
8. Describe the legal, ethical and social issues that may be associated with the collection and application of: genetic and genomic information, molecular biomarkers.
9. Gain experience managing and analyzing genetic and molecular data.

## Department of Health Policy and Management

### MPH in Health Policy

Upon completion of the MPH the graduate will be able to:

- Describe how the organization and financing of health services influence access, quality and cost
- Apply management principles to planning, organizing, leading and controlling health care enterprises
- Apply skills in financial accounting to healthcare administration decisions
- Apply principles of health economics in analyzing the behavior of healthcare market stakeholders
- Conduct economic evaluations of health services
- Utilize public finance theory to assess the impact of proposals to reform the financing and delivery of health services
- Incorporate legal principles in the administration of health services
- Prepare health policy briefings suitable for the range of policy stakeholders involved with the formulation and implementation of a health policy under consideration by decision makers
- Design an advocacy strategy for the development and implementation of a health policy

### MPH in Health Management

Upon completion of the MPH the graduate will be able to:

- Describe how the organization and financing of health services influence access, quality and cost
- Apply management principles to planning, organizing, leading and controlling health care enterprises
- Apply skills in financial accounting to healthcare administration decisions

- Apply analytic tools and theories to guide the management of financial assets in health care organizations
- Apply principles of health economics in analyzing the behavior of healthcare market stakeholders
- Incorporate human resources management principles in administering healthcare organizations
- Apply marketing concepts in the design of health services
- Incorporate legal principles in the administration of health services
- Be prepared to assume supervisory-level general management responsibilities in a health services delivery organization
- Execute both an operations management and a strategic management analysis in the role of a health services consultant

### **MSPH in Health Policy and Health Services Research**

Upon completion of the MSPH the graduate will be able to:

- Describe how the organization and financing of health services influence access, quality and cost
- Apply principles of health economics in analyzing the behavior of healthcare market stakeholders
- Conduct economic evaluations of health services
- Utilize public finance theory to assess the impact of proposals to reform the financing and delivery of health services
- Conduct a health services or health policy research investigation using quantitative analytic techniques
- Function as a team collaborator in the development and/or execution of a health services research investigation

### **PhD in Health Services Research and Health Policy**

Upon completion of the PhD the graduate will be able to:

- Apply economic concepts, theories and methods to the framing and analysis of research questions in health services and policy
- Apply political science concepts and theories and statistical techniques to the framing and analysis of research questions in health services and policy
- Describe major problems in health services and policy that are currently the subject of empirical investigations
- Apply advanced mathematical and theoretical economics to describe physician and hospital behavior, personal health decisions, the functioning of health insurance markets and related policy-relevant matters
- Effectively teach concepts and methods of health services and health policy research to students
- Design a health services or health policy research proposal involving both qualitative and mixed methods approaches
- Conduct a health services or health policy research activity investigation suitable for peer-reviewed publication as an independent researcher
- Function as an interdisciplinary team collaborator in the design and conducting of a health services or health policy research investigation

### **Certificate in Mental Health**

Upon completion of the certificate the graduate will be able to:

- Epidemiologically describe the burden of mental illness on society—US and global populations
- Describe the major theories on the etiology of mental illness or categories of mental illness
- Evaluate empirical evidence on social determinants of mental illnesses or categories of mental illness
- Describe how cultural differences affect the experience of mental illness and the seeking of health services
- Identify population-based interventions that would reduce the onset of mental illnesses or categories of mental illness
- Describe how populations in the US receive and finance mental health services
- Identify policy initiatives that would improve access to mental health services in the US
- Identify gaps in coverage for mental health services in the US and global settings and their consequences for mental health

## **Hubert Department of Global Health**

### **MPH in Global Health with a concentration in Infectious Disease**

- Upon completion of the MPH the graduate will be able to:
- Assess the major forces that influence the health of populations around the world
- Critique major global priorities and the reasons for their prioritization
- Critique the evidence for improving health delivery systems and health status of individuals, communities and populations around the world
- Design programs, policies and/or interventions intended to improve health services and health status of individuals, communities, and populations
- Conduct research, including formulation of specific research aim, conducting a literature review and formulating a hypothesis and selecting appropriate methodologies related to the emphasis.
- Compose a written scientific thesis that is consistent with department guidelines and relevant writing style sources
- Present the key methods, findings and public health implications of research on a poster
- and verbally communicate to an audience of public health professionals
- Explain the science of infectious disease including types of organisms, mechanisms of pathogenesis, host response and susceptibility
- Apply principles of infectious disease epidemiology, laboratory detection and clinical strategies to identify specific infectious pathogens and diseases
- Interpret the geographic and demographic distributions and morbidities and mortality of major infections in the US and globally
- Implement strategies to prevent and control infectious diseases

- Develop and maintain surveillance for infectious diseases
- Appraise the environmental, behavioral, and social factors that contribute to the emergence, re-emergence, and persistence of infectious diseases

#### **MPH in Global Health with a concentration in Reproductive Health and Population Studies**

Upon completion of the MPH the graduate will be able to:

- Assess the major forces that influence the health of populations around the world
- Critique major global priorities and the reasons for their prioritization
- Critique the evidence for improving health delivery systems and health status of individuals, communities and populations around the world

Design programs, policies and/or interventions intended to improve health services and health status of individuals, communities, and populations

- Conduct research, including formulation of specific research aim, conducting a literature review and formulating a hypothesis and selecting appropriate methodologies related to the emphasis
- Compose a written scientific thesis that is consistent with department guidelines and relevant writing style sources
- Present the key methods, findings and public health implications of research on a poster and verbally communicate to an audience of public health professionals
- Critique current population, sexual, reproductive health policies and programs at local, national and global levels
- Discern quality and appropriateness of data sources to measure sexual, reproductive health and population issues
- Apply demographic, epidemiologic and anthropologic methods to measure population change and population patterns at local, national and global levels
- Develop a policy, project or program to address a sexual, reproductive health or population problem
- Propose recommendations to improve sexual, reproductive health or population change issue
- Compare the theoretical, use effectiveness and relative cost of different methods of fertility regulation
- Compare the patterns and determinants of use of fertility regulations methods

#### **MPH in Global Health with a concentration in Public Nutrition**

Upon completion of the MPH the graduate will be able to:

- Assess the major forces that influence the health of populations around the world
- Critique major global priorities and the reasons for their prioritization
- Critique the evidence for improving health delivery systems and health status of individuals, communities and populations around the world
- Design programs, policies and/or interventions intended to improve health services and health status of individuals, communities, and populations
- Conduct research, including formulation of specific research aim, conducting a literature review and formulating a hypothesis and selecting appropriate methodologies related to the emphasis.
- Compose a written scientific thesis that is consistent with department guidelines and relevant writing style sources

- Present the key methods, findings and public health implications of research on a poster and verbally communicate to an audience of public health professionals
- Assess the nutritional status of individuals using anthropometric, diet and biochemical methods
- Calculate the magnitude, distribution and trends of nutrition problems in populations
- Evaluate the causes and consequences of under and over-nutrition in populations
- Critique the evidence base for the efficacy and effectiveness of nutrition programs and policies
- Develop innovative approaches to address nutrition problems

#### **MPH in Global Health with a concentration in Community Health and Development**

Upon completion of the MPH the graduate will be able to:

- Assess the major forces that influence the health of populations around the world
- Critique major global priorities and the reasons for their prioritization
- Critique the evidence for improving health delivery systems and health status of individuals, communities and populations around the world
- Design programs, policies and/or interventions intended to improve health services and health status of individuals, communities, and populations
- Conduct research, including formulation of specific research aim, conducting a literature review and formulating a hypothesis and selecting appropriate methodologies related to the emphasis.
- Compose a written scientific thesis that is consistent with department guidelines and relevant writing style sources
- Present the key methods, findings and public health implications of research on a poster and verbally communicate to an audience of public health professionals
- Assess health needs and assets of communities
- Design programs that mobilize community assets for social and behavioral change
- Manage the resources of organizations working at the community, local, regional or national level in health or development.
- Assess personal management and leadership styles
- Operate in partnership with local, national and international organizations engaged in the health and social sectors
- Develop systems to monitor progress toward targets, objectives, and goals
- Evaluate programs and their operational components

#### **Certificate in Complex Humanitarian Emergencies (CHE)**

Upon completion of the certificate the graduate will be able to:

- Describe a complex humanitarian crisis in terms of magnitude, person, time and place
- Calculate basic epidemiology measures
- Evaluate the strengths and limitations of epidemiological data within the context of CHE
- Develop public health programs and strategies responsive to the diverse cultural values and traditions of the community being served
- Identify internal and external problems that may affect the delivery of essential public health services in a CHE

- Collaborate with communication and informatics specialists in the process of design, implementation and evaluation of public health programs in CHE

## Executive MPH Program

### MPH in Applied Public Health Informatics

Upon completion of the MPH the graduate will be able to:

- Support development of strategic direction for public health informatics within the enterprise
- Participate in development of knowledge management tools for the enterprise
- Use informatics standards
- Ensure that knowledge, information and data needs of a project or program users and stakeholders are met
- Support information system development, procurement and implementation that meet public health program needs
- Manage IT operations related to project or program (for public health agencies with internal IT operations)
- Monitor IT operations managed by external organizations
- Communicate with cross-disciplinary leaders and team members
- Evaluate information systems and applications
- Participate in applied public health informatics research for new insights and innovative solutions to health problems
- Contribute to development of public health information systems that are interoperable with other relevant information systems
- Support use of informatics to integrate clinical health, environmental risk and population health
- Implement solutions that ensure confidentiality, security and integrity while maximizing availability of information for public health
- Conduct education and training in public health informatics

### MPH in Prevention Science

Upon completion of the MPH the graduate will be able to:

- Assess individual and community agency needs and assets
- Plan public health interventions and programs
- Implement public health interventions and programs
- Oversee the management and fiscal procedures of public health interventions and programs
- Assess the effects of public health interventions and programs
- Incorporate the use of technology and public health informatics in professional practice
- Develop communication strategies for public health interventions and programs
- Make community-specific inferences from quantitative and qualitative data
- Describe the ethical and the policy implications on program operations that result from public health decision making
- Contribute to the science base of public health
- Contribute to the professional and leadership development of oneself and to the larger public health field

### MPH in Applied Epidemiology

Upon completion of the MPH the graduate will be able to:

- Describe public health problems in terms of magnitude, time, place, person and their associated risk factors
- Identify principles and limitations of epidemiologic screening programs
- Identify major epidemiologic problems of importance
- Apply basic principles of public health surveillance in the practice of public health
- Identify key sources of data for epidemiologic purposes
- Formulate a research question
- Differentiate between descriptive and analytic epidemiologic methods
- Evaluate the strengths and weaknesses of different study designs with respect to a given research question
- Calculate basic epidemiologic measures
- Implement methods of data cleaning and documentation for epidemiologic data sets
- Conduct basic epidemiologic research using multivariable models (e.g., linear, logistic, Cox and Poisson regression)
- Fit epidemiologic models
- Interpret epidemiologic results in a causal framework
- Evaluate the strengths and weaknesses of the epidemiologic literature
- Utilize information technology tools and statistical programming packages in preparing scientific reports
- Communicate epidemiologic information in a scientific report
- Recognize potential ethical and legal issues in epidemiologic studies



## ADMISSION TO THE MPH, MSPH, AND EXECUTIVE MPH PROGRAMS

### Degree-Seeking

Departments normally admit degree-seeking applicants only starting in the fall semester (August). Under special circumstances, applicants may be considered in other semesters. The sequence of courses is designed for students entering in the fall.

The deadline for the receipt of the completed application and all required supporting documents from all applicants for fall semester is January 5th or the next business day, should it fall on a holiday or weekend. The Rollins School of Public Health participates in a centralized application service called SOPHAS. Applicants can access the online application through <http://www.sph.emory.edu/admissions/how-to-apply/index.html>. However, all application materials should be sent directly to the Schools of Public Health Application Service (SOPHAS). A complete set of application documents includes the following: the online application (includes personal statement and work/ research/volunteer history), one transcript from each postsecondary institution attended (international transcripts must be evaluated by World Education Services [WES]); completed reference letters from at least two individuals; and an official graduate- level entrance examination score report.

Admission is competitive; therefore, applications should be submitted well in advance of the deadlines. Applications received or completed after the deadlines will be considered on an availability basis.

Applicants whose files are completed by the January 5 deadline are normally notified of their admission decision within eight weeks.

For additional information regarding the application process, please refer to the RSPH Admission website, <http://sph.emory.edu/admissions/master/index.html>.

### Admission Requirements

Minimum requirements for admission include satisfactory completion of a four-year baccalaureate degree or its equivalent and a strong interest in a career in public health. Work or academic experience in the health field is highly desirable but not essential. However, preference is given to students who have advanced training and applied experience.

In general, applicants are required to submit test scores from the Graduate Record Examination (GRE). Applicants who have completed doctoral-level degrees from a US institution are not required to submit GRE scores unless otherwise specified by the department. Applicants who have recently taken the Medical College Admissions Test (MCAT) may submit these scores as alternatives to the GRE, except for the Department of Biostatistics and Bioinformatics. Some dual-degree programs accept other entrance examinations.

There is no minimum requirement for the GRE. A minimum GPA of 3.0 is preferred. It is important to note that the GRE and GPA are evaluated in the context of the overall application and other supporting documents.

The program encourages applications from international students who are proficient in speaking, reading, writing, and understanding the English language. All applicants whose native language is not English are required to take the Test of English as a Foreign



Language (TOEFL) and to earn a minimum score of 550 (213 computer-based test, 80 Internet-based test). Such applicants should schedule and take the TOEFL as one of the first steps in the admission process. The International English Language Testing System (IELTS) is also acceptable. A minimum score of 6 is preferred. Applicants who are permanent residents of the US or who have completed a degree from a US institution are not required to submit TOEFL scores.

Applications to the MPH and MSPH degree programs are reviewed and applicants are admitted by a specific department selected by the applicant. Departments may have additional minimum admission requirements to those listed here. Applicants applying for the MPH or MSPH degree program should review the individual department's admission selection in this catalog and comply with any additional requirements.

The Executive MPH (EMPH) Program requires a minimum of three years professional experience in a field related to public health. Otherwise, the application procedure for the Executive MPH Program is identical to that of the MPH and the MSPH degree programs.

For additional information regarding the application process, please refer to the RSPH Admission website: <http://sph.emory.edu/admissions/master/index.html>.

### Special Standing

The school usually allows students who are not degree candidates to register for courses. Individuals interested in taking courses as special-standing students must complete the special-standing application/admission procedure. The special-standing application deadline for receipt of properly completed applications and official degree transcripts is one month prior to the start of the semester of anticipated enrollment.

Enrollment of special-standing students in courses is contingent on the availability of space and the permission of the department and/or program. Students in special standing,

are ineligible for federal financial aid or for RSPH merit scholarships.

Students in special standing who later complete the degree-seeking application process will be considered on the same basis as other applicants. Admission to special standing does not ensure that an individual will be accepted into a degree program. If admitted to a degree program, students may apply up to nine semester hours of special-standing course work toward the MPH or MSPH degree. Additional information and application forms may be found at <http://sph.emory.edu/academics/special-standing-students/index.html>.

The tuition for special-standing students is \$2,000 per credit, plus fees.

### Transient Status

Students who are enrolled at another academic institution but wish to earn graduate credit at Emory and transfer the credit to that university may take course work in the RSPH. Such students should complete a transient status application that certifies good standing in another program. The degree-granting institution must also authorize the enrollment in selected courses. Transcripts and letters of recommendation are not required. Transient applications must be completed no later than thirty days prior to the semester selected for enrollment. Enrollment of transient students in courses is contingent upon the availability of space and the permission of the department(s) and/or program. The transient applicant must apply for each semester of enrollment.

## FINANCIAL INFORMATION

### Financial Aid

Financial aid information is available through the Emory University Office of Financial Aid, which coordinates the need-based financial aid packages and can be reached at 404.727.6039. Loan options include the unsubsidized Stafford Loan, Graduate PLUS Loans, and Emory Student Loan programs. Non-US citizens are ineligible for federal loans. Students who apply for need-based aid may also be considered for need-based scholarships from the school. Refer to the RSPH website at [www.sph.emory.edu/admissions/tuition/applying-for-aid/index.html](http://www.sph.emory.edu/admissions/tuition/applying-for-aid/index.html) or the public health section of Office of Financial Aid at [www.emory.edu/financial\\_aid/health\\_professions/public\\_health/](http://www.emory.edu/financial_aid/health_professions/public_health/) for more information.

### Rollins Earn and Learn Award

The Rollins Earn and Learn (REAL) Award provides funding for master's level public health students to support their academic interests with an applied public health experience. Student work opportunities are an integral part of the RSPH experience. Each year, more than 540 students find public health work opportunities with agencies such as the Centers for Disease Control and Prevention, CARE, American Cancer Society, The Carter Center, Children's Healthcare of Atlanta, and other local agencies while pursuing advanced studies. Additionally, many students find opportunities working on faculty research grants within the Rollins School of Public Health and throughout the Emory University/Emory Healthcare systems. These experiences may fulfill practicum requirements and lead to thesis opportunities.

Eligibility for this award is based on the submission of the FAFSA and availability of

funds. Funds are earned and paid directly to students through biweekly paychecks. The amount of the award is the maximum the student may earn for the academic year. Students typically work 10–20 hours per week. The wage for graduate students is \$12/hour. Students may apply for positions through Emory's online system, Rollins Opportunities Link (Handshake). Access to Rollins Opportunities Link will be provided to incoming students in early August, followed by a public health job fair after orientation.

### Cost of Living

Information regarding University and off-campus housing may be obtained from the Office of Residential Services ([www.emory.edu/HOUSING/](http://www.emory.edu/HOUSING/)). Additionally, the Cost of Living Guide has been developed as a resource that can offer suggestions and additional information about cost savings and funding (<https://www.sph.emory.edu/admissions/tuition/cost-living/index.html>).

### Tuition and Fees 2017–2018 Academic Year

Tuition and fees are subject to annual increases:

Degree Program	Length of Degree Program	Full-Time Semester Rate**
MPH (excludes EMPH)	4 semesters	\$16,400
MPH	3 semesters	\$22,000
MSPH	4 semesters	\$18,900
Dual Degree and 4+ 1 Programs	2 semesters	\$25,300
Executive MPH	6 semesters (3 course schedule)	\$10,900
	9 semesters	\$1,700/credit hour
Part-time MPH/MSPH	(5+ semesters)	\$2,000/credit hour
Non-degree rate		\$2,000/credit hour
Graduate in Residence		\$1,000/semester

Fees: All students will be charged the following fees per semester. Administrative fee (first semester only)—\$350; Transcript fee (first semester only)—\$70; Student Activity fee—\$92; Student Athletic fee—\$138; Mental Health fee—\$78

\*\*All full-time degree-seeking students (with the exception of the distance program) are expected to be registered for at least nine credits per semester and will be charged the semester rate. Students are responsible for paying the total tuition for their academic plan (semesters x semester rate).

In the case of complete withdrawal within the first five weeks of a semester, an adjusted proportionate refund of tuition and fees will be granted. No refund will be awarded if a student is dismissed or if a student drops course work after the last day for course changes stipulated in the academic calendar. For the withdrawal schedule and policy statement on refunds, please refer to <http://www.sph.emory.edu/rollins-life/enrollment-services/financial-services/index.html>.

## Honors and Awards

### Delta Omega

Delta Omega is the national honorary society for public health professionals. Founded in 1924, it now has chapters at most schools of public health. Each year the chapter elects members from the student body, faculty, and alumni based on scholarship (among students), teaching, research (among faculty), and community service (among alumni).

### James W. Alley Award

This award, in memory of James W. Alley, state health officer for Georgia from 1973 until 1990, recognizes the graduating MPH student who, in the eyes of the faculty and students, has provided the greatest service to disadvantaged populations during his or her career.

### Eugene J. Gangarosa Award

This award, named after the former director of public health at Emory, is presented to the graduating student who has demonstrated a creative approach to solving public health problems and who shows promise for outstanding service in the international arena.

### Thomas F. Sellers Jr. Award

This award, named after the former chair of community health at Emory, is presented to the faculty member of the RSPH who exemplifies the ideals of public health and who serves as a role model and mentor to his or her colleagues. The award is given to an individual who, like the man for whom it is named, represents the best qualities of collegiality.

### Charles C. Shepard Award

This award, in memory of an outstanding scientist at the US Centers for Disease Control and Prevention, is presented to the graduating student who is deemed by the faculty to have prepared the most scholarly thesis.

### Who's Who Among Students in American Universities and Colleges

This award honors those students whose presence on campus has enriched and enhanced the community, and made it a better place for all to live and work.

### Rollins School of Public Health Student Government Professor of the Year

This award, selected by students, honors an outstanding faculty member who demonstrates leadership, a genuine concern for students, and a sense of academic excellence. It is awarded annually by the RSPH student government.

### Rollins School of Public Health Student Government Staff of the Year

This award, selected by students, honors an outstanding staff member who demonstrates leadership, a genuine concern for students. It is awarded annually by the RSPH student government.

### Emory Humanitarian Award

This award is given to students in recognition of qualities of honesty, integrity, courage, and responsibility, which are fundamental to effective leadership

## Student Organizations

The Rollins School of Public Health is made up of a myriad of actively engaged individuals and groups. Below are the current groups chartered by our student government association, but new groups form each semester – check with the RSGA for the most updated list of student organizations.

### Rollins Student Government Association (RSGA)

The Rollins Student Government Association is the governing student assembly of the Rollins School of Public Health. The purpose of the RSGA is to advocate for students and enrich the experience of their time at Rollins. The RSGA addresses students' needs and concerns regarding school facilities, current administration, academia, extra-curricular activities, and more. The RSGA presides over the department representatives of RSPH and the student organizations. The annual budget of the RSGA and RSPH Student Organizations are allocated from the student activity fees paid by students. Annual elections for the executive board member and departmental representative positions are held each November.

### Association of Black Public Health Students (ABPHS)

ABPHS is designed to enhance the experience of minority students attending the Rollins School of Public Health, to encourage community engagement, and to raise consciousness of health issues concerning black communities in the U.S. and abroad. ABPHS strives to augment the graduate experience by providing opportunities for academic support, professional growth, community service, and social bonding within the Rollins community and greater Atlanta metro area.

### Emory Global Health Organization (EGHO)

The goal of EGHO is to facilitate engagement in global health outside the classroom. To accomplish this, EGHO works through several different committees, each of which focuses on an important aspect of student interests. Through these communities, EGHO works to engage in global health issues through service and advocacy; foster global health awareness and encourage the growth of a global perspective; increase resources and opportunities available to all students with an interest in global health; and build connections with each other and with professionals in the field.

### Emory Mental Health Association (EMHA)

The mission of EMHA is to foster a community of positive mental health, awareness of negativity, and stigma reduction. EMHA works to communicate this mission to Emory students and the greater Atlanta community with a shared goal of changing the conversation on mental health to one of acceptance and support. EMHA hosts several events throughout the year bringing mental health professionals and Emory students together to educate the community and advocate for current mental health topics.

### Emory Reproductive Health Association (ERHA)

ERHA promotes reproductive health and rights awareness through community outreach, research and fund-raising locally and globally. The purpose of ERHA is to increase awareness of current local and global reproductive health issues through educational outreach through guest speakers, films, and distribution of information; be actively involved in the Emory and Atlanta communities by volunteering with local organizations focused on disparities in reproductive health; and to fundraise for reproductive causes, more

specifically the Global Elimination of Maternal Mortality Due to Abortion (GEMMA) fund established by Roger Roachat.

#### **Georgia Public Health Association (GPHA)**

GPHA, a nonprofit corporation organized for the purpose of promoting the public and personal health of Georgia's citizens, is the largest public health organization in the Southeast. It provides many opportunities for networking with public health professionals, attending continuing education seminars, and advocating for public health issues concerning Georgians.

#### **Health Organization for Latin America (HOLA)**

HOLA is a student-led organization dedicated to promoting, advocating for, and informing about the health of Latinos in the US and abroad. HOLA works toward its mission by sponsoring academic lectures on topics relevant to Latino health, coordinating volunteer opportunities that benefit Latino populations, and connecting students and organizations that have a shared interest in promoting the health of Latinos. Additionally, HOLA strives to create a sense of community among students with a common passion for Latin America, through periodically hosting social events throughout the year.

#### **Humanitarian Emergency Response Team (HERT)**

HERT aims to provide students with an opportunity to collaborate with public health professionals and contribute to research projects related to Complex Humanitarian Emergencies (CHEs). Members are selected through a competitive application process.

#### **Jewish Students in Public Health (JSPH)**

JSPH works to increase awareness about health issues affecting the Jewish community at Emory and elsewhere while establishing a Jewish community and culture at RSPH. Our purpose is to increase awareness about genetic diseases and other health issues affecting the Jewish community of Emory and beyond through outreach. We provide a culture of Jewish learning and spiritual growth while also engaging the RSPH, Emory and Atlanta communities through service projects and social events.

#### **Queer/Trans\* Collaborative at Rollins (QT\*C)**

QTC is a consortium of LGBTQ+ (lesbian, gay, bisexual, transgender, queer, and other fluid identity) individuals connected to the Rollins School of Public Health. QTC is committed to increasing visibility, academic discourse, networking opportunities, future leaders, and solidarity among LGBTQ+ persons.

#### **Rollins Association for Cancer Prevention and Control (RACPAC)**

RACPAC is a professional graduate school organization aimed at connecting Rollins students with public health professionals and opportunities in the cancer field. Our mission is cancer prevention through advocacy, fundraising, community involvement and volunteering.

#### **Rollins Association for South Asian Health (RASAH)**

RASAH was established to promote and encourage engagement in issues of South Asian health amongst the Rollins and Emory University Community. RASAH seeks educational development and discussion within RSPH and among other Emory schools relating to South Asian health issues and to promote South Asian community engagement among students (e.g. health fairs). RASAH also acts as a resource for Rollins students pursuing research or fieldwork relating to or in South Asia.

#### **Rollins Environmental Health Action Committee (REHAC)**

REHAC believes that the environment influences our health and as health advocates we must also promote a safe and sustainable community. It seeks to improve and protect our living and working environment through locally focused and collaborative education, action and reaction.

#### **Rollins mHealth Collaboration (RmC)**

The RmC provides student and faculty a forum to explore the global mobile health phenomenon while building practical skills in mobile tech systems design, implementation, scaling and evaluation. Their two priority areas include: Introducing students and faculty to the field of mHealth and educating students and faculty in mHealth systems design, implementation, scaling, and evaluation.

#### **Rollins Latinx Alianza (RLA)**

RLA is a student-led organization that fosters a space for solidarity, mobilization, and the education advancement of Latinx students, undocumented students, and allies at Rollins School of Public Health.

#### **Rollins Peace Corps Community (RPCC)**

RPCC is an organization where Returned Peace Corps Volunteers and other graduate students at Rollins network with their fellow colleagues.

#### **Students for Social Justice (S4SJ)**

S4SJ is a network of students committed to equity, change, and social justice within our personal, academic, and professional lives. S4SJ seeks to create a network of diverse friends and coworkers in order to form coalitions which bring a social justice framework to various topics; and to mobilize students for actions, advocacy and community engagement.

#### **Student Outbreak and Response Team (SORT)**

SORT is a collaborative effort between the DeKalb County Board of Health and the Rollins School of Public Health's Center for Public Health Preparedness & Research, whose mission is "To promote future public health leadership by providing students with hands-on experiences that contribute to improved community health." SORT provides current public health students with the opportunity to apply public health theory in practical settings. MPH students are chosen annually at the start of the fall semester via a competitive process to participate in this program.

## Grading System

The symbols A, A-, B+, B, B-, C, and S (satisfactory) indicate credit, and F and U (unsatisfactory) indicate failure and no credit. The symbol W indicates withdrawal without penalty, WF indicates withdrawal while failing, and WU indicates unsatisfactory withdrawal. No course credit will be awarded for grades of F, U, W, WF, or WU. When a course, seminar, or research activity is scheduled to last for more than one semester, the notation P (in progress) will be made at the end of the semester, and will remain until the final grade is awarded.

### Quality Points

For each semester hour of credit, quality points are computed as follows:

A	= 4.0
A-	= 3.7
B+	= 3.3
B	= 3.0
B-	= 2.7
C	= 2.0
F	= 0

The grade of S carries academic credit but no quality points; U carries neither academic credit nor quality points. The grades of W, S, and U are not used in computing a student's grade point average (GPA). The grade of WF is counted as an F in computing a student's GPA.

### Incompletes

If the student does not complete assigned work during the prescribed period, the notation I (incomplete) may be given. If the work is not completed within the time allowed by the instructor, which is a maximum of one traditional academic semester (fall or spring), a final grade of IF will be given, and the student may be required to repeat the course. A student having two or more incompletes will not be permitted to register for additional courses without special permission from the associate dean for student affairs.

### Satisfactory/Unsatisfactory (S/U) Grading

Students may register for elective courses using a satisfactory/unsatisfactory (S/U) grading basis rather than a letter grade grading basis with the permission of the course instructor or the assistant director of academic programs. The grade of S indicates at least passing course work (B-). All core courses must be taken for a letter grade. No more than six credit hours may be taken under the S/U grading basis, not including credits for a thesis.

### Grade Appeal Procedure

In keeping with the principles of academic freedom, responsibility for evaluation of a student's work rests with the course instructor. The grade appeal process is designed to ensure that the grading system is applied fairly to all individuals in the class.

When students believe that their work merits a different grade than that assigned by the course instructor, they should first contact their instructor as soon as possible, not to exceed one month after the grade is posted in OPUS. The instructor and student should discuss the grade.

If, following a discussion with the instructor, students believe their work was not fairly assessed, they may submit an appeal in writing within two weeks (and with any documents at issue) to the department ADAP in which the course was offered. This material will be reviewed in a timely way by the department chair in consultation with the course instructor.

Should students believe the department review to be unfair, they may appeal the decision, in writing and within two weeks, to the executive associate dean for academic affairs, who may consult the academic standards committee. The student will be notified of the review outcome by the associate dean of academic affairs.

### Variable Credit

Some designated courses, such as thesis, special study project, and directed study, are taken on a variable credit (VC) basis. Students should discuss with their advisers the number of hours for which to register. Other courses available for variable credit will be indicated on the schedule of courses.

### Repeating Courses

A course with the letter R after the course number indicates a course that has varying topics and may be repeated for credit.

### Grade Point Average and Academic Probation

Students are required to maintain an overall GPA of 2.7 for graduation. Students whose cumulative GPA falls below 2.7 after having attempted at least ten credit hours will be placed on academic probation in the traditional program, or six hours for students participating in the Career Masters Public Health program. Students on probation must raise their cumulative GPA to 2.7 within the next ten attempted credit hours of enrollment for students in the traditional program and the next six attempted credit hours of enrollment for the students in the Career Masters Public Health program. Failure to do so will result in exclusion from the program. Once the student has again achieved a 2.7 GPA and probation has been removed, the 2.7 GPA must be maintained until graduation. If the student again falls below the 2.7 GPA, she or he will be excluded from the program and has 30 days to appeal the exclusion.

### Attendance

Although attendance generally is not recorded, students are expected to attend all classes and to negotiate absences with the course instructor.

### Time Limit

Only course credits earned within five years prior to graduation may be applied toward the forty-two credit hour degree requirement for a master of public health, or the forty-eight credit hour degree requirement for a master of science in public health. Students who exceed the five-year limit may be required to repeat courses. Under extraordinary circumstances, students may petition the Education Committee with the support of their faculty adviser and department chair for one extension, provided the petition is initiated no less than one semester before the five-year limit. The extension will be for a period of one year.

### Graduation Requirements

Students must make formal application in OPUS for a degree to be awarded in a particular semester. Submitting the degree application for graduation in OPUS is due during the early part of the semester in which the student intends to graduate. There is a \$25 fee for applications submitted after the University deadline. There is no penalty for a student who applies for a degree but fails to complete all requirements for the degree in that semester. Please note, however, that all students must submit an application in the semester in which they intend to graduate, even if they have submitted an application in past semesters. If students are enrolled in a dual degree program, they must submit separate applications with each school. Students must be enrolled during the semester in which they intend to graduate.

- An overall GPA of 2.70 is required for graduation.
- Students must pass all required MPH/MSPH core and department core courses.
- Students must have completed at least 42 semester hours (MPH) or 48 semester hours (MSPH) within five years from original enrollment.
- A passing grade (B- or better or S) must be achieved on the SSP/Thesis or in the Capstone Course.
- Students must complete a practicum and completed the information in the Practicum Web Client for clearance.
- Students are required to enroll in the semester in which they wish to graduate.
- Students who wish to graduate in any semester MUST file an “Application for Degree” before the deadline for that semester.

Each semester, the deadline to apply for graduation is listed in the student course schedule.

### Graduate in Residence (GIR) Status

Graduate in Residence is a special registration category reserved for eligible RSPH students. To be eligible to register as a Graduate in Residence, students must have satisfactorily registered for all degree requirements, fulfilled their financial requirements, and be in the final stages of completing their degree.

Students enrolled in this status will be assessed a reduced tuition rate. Students registered as Graduate in Residence will be considered full-time, will be eligible for limited federal loans, and will have the on-campus privileges of all full-time students. The Graduate in Residence status carries no academic credit and is not required to complete an RSPH degree program.

**Students may be registered as a Graduate in Residence for no more than three semesters.** Before a student is registered for their second or third semester as GIR, continued progress towards the completion of the degree must be demonstrated to the department. If a student is not able to demonstrate progress towards completing degree requirements, the department may determine to deny this registration until due progress is demonstrated.

### Leaves of Absence

A student in good academic standing may be granted up to two one-year leaves of absence upon recommendation of the student’s department and approval of the dean. The student must demonstrate that during this period he or she must (or plans to) interrupt progress toward the degree. The student should be aware that the University will not certify to loan officers or governmental agencies that a student on leave of absence is in residence or actively pursuing a course of study.

**For the purpose of determining eligibility for leave of absence, a student must be in good academic standing and have resolved all incomplete work.** Time spent in leave of absence does not count toward the five-year limit. Students beyond this limit are not eligible for leave, but may apply for extension of the time within which to complete degree requirements, in full accord with the rules governing such extensions.

Leaves of absence are not to be used to resolve academic difficulties, reconsider continuation in study, or finish incomplete work. Rather, this policy is intended to allow students to “step out of” academic work for a specified period, during which they will be unable to continue work in any way, as when required to take advantage of a unique professional opportunity, deal with short-term disabilities, or meet competing responsibilities of a nature which preclude meaningful work toward the degree.

A student desiring to return to the Rollins School of Public Health after a leave of absence should request readmission at least thirty days prior to the beginning of the term in which he or she wishes to return.

### Academic Advisement

Upon admission to the program, degree-seeking students are assigned advisers. Advisers for students will be their department’s assistant director of academic programs and designated faculty.

### Course Work at Other Colleges/Institutions

Degree-seeking students in the MPH and MSPH programs may take courses at other Emory schools with permission from the course instructor and the approval of their department. Graduate level courses may count towards the student’s degree completion. Students may also take classes at Emory College (undergraduate school) as additional courses, but these credits will not count towards the completion of degree requirements. Students may petition the department and the executive associate dean for academic affairs for permission to take at other institutions relevant courses unavailable at Emory University. The RSPH participates in the Atlanta Regional Commission for Higher Education (ARCHE) cross-registration agreement. Students wishing to enroll in courses outside Emory should try to enroll at one of these participating institutions, if possible. Complete information pertaining to cross-registration is available in the RSPH Registrar’s Office.

If a particular course is not available at an ARCHE member institution, the student may enroll as a transient student at a nonmember institution. Student requests to cross register or enroll as a transient student should be submitted in writing to the assistant director for academic programs and the department chair at least one month prior to registration. These requests should include course objectives, course requirements, and reading lists. Additional information about cross registration is available from the University Registrar at 404.727.6042.

### Transfer Credit

Up to six semester hours of transfer credit may be allowed for relevant graduate-level courses taken at other academic institutions within the three previous years, provided these credits were not used toward another degree. The transcript must reflect a grade of an A or B for transfer credit to be granted. The request for transfer credit must be approved by the department chair where the course is taught and the executive associate dean for academic affairs.

The acceptance of transfer credits does **NOT** prorate or change the student's responsibility for full payment of the established tuition plan for their degree.

### Course Audit

The charge for audit courses is the same as for credit courses. Courses audited may not later be used for credit by examination, nor may they be transferred to credit courses after the end of the course change period. Individuals interested in auditing a RSPH course must complete the admission process and officially register for the course. Although the tuition fee is the same for credit courses, *audit hours do not count toward eligibility for federal financial aid.*

### Transfer between Departments

Students may request a transfer from one department to another. The department to which the student seeks to transfer will review the student applicant. Both departments must agree to the transfer. Notification of agreement should be sent to Enrollment Services.

### Curriculum Policy

The RSPH Education Committee decides curriculum policy. The purpose of the Education Committee shall be to initiate, develop, establish, and interpret standards pertaining to the curriculum of the MPH and MSPH degrees and their delivery and to approve, review, and evaluate academic course offerings of the RSPH.

### Student Petitions

Student petitions requesting exemptions, course credit, and transfer credit must first be approved by the appropriate department chair(s) before the course is offered or taken. If there is a discrepancy regarding the petition decision between the student's department and the course department, the petition will be submitted for review to the executive associate dean for academic affairs.

### Enrollment During Semester of Graduation

The RSPH requires that students be enrolled in the University during the semester in which they graduate.

### PhD Programs

Academic policies for the PhD programs may be obtained from the Graduate School of Arts and Sciences at 404.727.6028.

## Student Grievance Procedure

RSPH students who wish to file a grievance or disagreement that does not fall within the jurisdiction of the RSPH Student Honor and Conduct Code should first discuss the concern with the Departmental Associate/Assistant Director of Academic Programs. Depending on the nature and/or complexity of the complaint, the Associate/Assistant Director of Academic Programs may either choose to address the issue with the appropriate parties her/himself or choose to share the grievance with the department chair for further review and discussion. Students who are not satisfied with the resolution through these channels, or believe the scope of the grievance cannot be resolved satisfactorily through these channels may present their grievance to the associate dean of student affairs. The associate dean of student affairs may choose to address the issue and resolve the grievance on an informal basis. If the student is not satisfied with this methodology, he/she may file a formal complaint.

To file a formal complaint, the student must submit a written statement addressed to the associate dean of student affairs. The statement must state the charge to be considered;

describe fully the nature of the complaint, the evidence and all circumstances surrounding the event(s) which will support the charge. The associate dean of student affairs will convene a meeting of an Ad Hoc Grievance Committee, comprised of two faculty members and two students who are not affiliated with the department linked to the grievance. The Grievance Committee will independently review the written complaint. If necessary the Grievance Committee may request additional information from the grievant as well as statements and additional information from other persons involved in the situation. If necessary the Grievance Committee may request a meeting with these persons as well to gain additional information.

On the basis of the written statement and additional information, the Grievance Committee will make a recommendation to the executive associate dean of academic affairs, providing supporting documentation. Taking into consideration the information and supporting documentation provided, the executive associate dean will determine the legitimacy of the grievance and any further action to be taken. The executive associate dean will inform the student and the Grievance Committee of the final determination.

A student may appeal the determination to the Grievance Appeal Council through the executive associate dean of academic affairs. The executive associate dean of academic affairs will preside over this session. The decision of the Grievance Appeal Council is final.

Use of the RSPH school grievance procedure will not prejudice in any way a student's rights under the University Student Grievance Procedure.



This section contains the specific policies adopted by the various governing bodies of the RSPH. All students in the RSPH are subject to the rules and regulations of the University as set forth in the Emory University Campus Life Handbook and in the RSPH catalog. Students should be familiar with these policies.

## General University Policy

### Registration

Registration is conducted on the dates indicated on the academic calendar. Students not completing registration on regular registration days are charged a late registration fee of \$150. Registration is not permitted after the schedule change period. Registration for any term is not complete until all requirements have been fulfilled and financial responsibilities are met. All matriculated, degree-seeking students are expected to preregister each semester.

### Cancellation and Withdrawal

Students who need to withdraw from the University due to some hardship are required to complete a withdrawal form. This form is obtained from enrollment services and requires permission of the department assistant director of academic programs. An adjusted proportionate reimbursement of tuition and fees will be granted within the first five weeks of a semester for a complete withdrawal. Refunds for first-time Emory University students who are federal (Title IV) aid recipients will be prorated in accordance with the Higher Education Amendments of 1992 and any related regulations. A student who is dismissed will not receive a refund. No refund is received for partial cancellation of classwork after the deadline for the last day for course changes listed in the academic calendar. For more detailed information about refunds, refer to the refund schedule in the Emory University Schedule of Courses Bulletin, or call the Bursar's Office at 404.272.6089.

### Transportation, Vehicle Registration, Parking, and Traffic Regulations

Metro Atlanta Rapid Transit Authority (MARTA) buses connect Emory to the rapid-rail system and all parts of the city. Students who intend to have cars on campus must adhere to the following regulations:

1. All students operating automobiles, motorcycles, and scooters at Emory must register their vehicles with the Parking Office at the beginning of every academic year immediately after arriving on campus or as soon as the vehicle is acquired. Proof of ownership is required at the time of registration. There is an annual fee for registration, which must be paid at the time of registration. The Parking Office is located at 1701 Lowergate Drive.
2. University traffic regulations are specified in a booklet provided at the time of vehicle registration. Persons with vehicles on campus are expected to know and abide by these regulations.

## Rollins School of Public Health Honor and Conduct Code

The RSPH requires that all material submitted by a student in fulfilling his or her academic course of study must be the original work of the student and must uphold academic integrity. Students are expected to engage in ethical conduct consistent with the field of public health or Emory University.

Allegations of violations of the Honor and Conduct Code undergo a preliminary investigation by the Associate Dean for Student Affairs. The matter may be resolved at that point or referred to a formal Hearing Committee consisting of students and faculty members who make their recommendation to the Associate Dean for Academic Affairs. Students may petition to appeal that decision, in which case a second Hearing Committee may be convened.

Policies and procedures governing honor and conduct code violations are contained in this document.

### Introduction

In accordance with university bylaws, the president of the university has delegated to the dean and faculties of each school the responsibility of designing honor and conduct codes for its students. The Rollins School of Public Health (RSPH) Honor and Conduct Code was established to ensure personal responsibility and professional standards consistent with the field of public health and the missions of both Emory University and RSPH. In cases where the code has been alleged to be compromised, it sets forth a set of procedures to deal with the allegations. This code applies to any student registered in a RSPH course. Registered students are responsible for upholding all aspects of the code.

### Student Academic Honor

The RSPH requires that all material submitted by a student in fulfilling his or her academic course of study must be the original work of the student and must uphold academic integrity at the graduate level.

It is the obligation of every student to know the regulations regarding academic misconduct. Ignorance of these regulations will not be considered a defense. If a student is unclear about whether or not something violates the academic integrity of a course assignment and/or degree requirement, it is his/her responsibility to seek clarity with the instructor and/or academic advisor. In situations outside the classroom, the student should seek clarifications from an appropriate RSPH official.

### Violations of Student Academic Honor

Violations of academic honor include any action by a student indicating dishonesty or a lack of academic integrity. Violations of academic honor include but are not limited to cheating, plagiarism, falsifying research data, falsification and forgery of University academic documents, facilitating academic dishonesty, and providing false evidence.

- *Cheating* includes, but is not limited to, seeking, acquiring, receiving, or passing information intended to facilitate performance on an examination prior to its authorized release or during its administration, or attempting to do so. Cheating also includes seeking, using, giving, or obtaining unauthorized assistance in any academic assignment or examination, or attempting to do so.
- *Plagiarism* is the act of presenting as one's own work the expression, words, or ideas of another person, whether published or unpublished (including the work of another student) without proper acknowledgment.
- *Falsifying data* includes, but is not limited to, creating information not actually collected, altering, or misrepresenting information and/or data.
- *Falsification and forgery of university documents* includes knowingly making a false statement, concealing material information, or forging a university official's signature

on any university academic document or record. Such academic documents or records may include transcripts, add or drop forms, requests for advanced standing, requests to register for courses, etc. The falsification or forgery of non academic university documents such as financial aid forms, academic standing verification letters, student recommendation letters, or other documents related to the academic record will also be regarded as a violation of the honor code.

- *Facilitating academic dishonesty* includes but is not limited to intentionally or knowingly helping or attempting to help another to commit an act of academic dishonesty.
- *Providing false evidence* in any Honor Council hearing or refusing to give evidence when requested by the Honor Council are considered to be honor code violations.

### Student Conduct

The practice of public health requires an active commitment to ethical conduct consistent with the field of public health throughout all program requirements including, but not limited to, internships, research, field work and practicum experiences. While this expectation is set, it is also important to outline behavior that is clearly the exception, or in violation of the code. RSPH respects the rights of organized and intentional student dissent and protests. In situations of student dissent and protest, the statements below should be interpreted in accord with Emory policies on student dissent and protest. The following conduct violations will be explored below.

### Violations of Student Conduct

Violations of student conduct include any action by a student which violates ethical conduct consistent with the field of public health or Emory University. These actions may include, but are not limited to, dishonesty through misrepresentation or withholding of pertinent factual information; forging, falsifying, or misusing university documents or records; infraction of university rules and regulations which protect the university community; conduct in violation of university policies prohibiting discrimination, sexual harassment and sexual misconduct; theft; personal abuse; malicious damage/breaking and entering; disorderly conduct and disruption of class; misuse of electronic equipment and information technology; substance use; infractions of public law that involve and/or are linked to Emory University; and actions that deliberately demean or violate the integrity of other university members.

- *Dishonesty through misrepresentation or withholding of pertinent factual information* in a student's personal dealings with other students, faculty, or staff of the University, or organizations or agencies of the University. This also includes falsification of information for the purpose of admission to the RSPH or job application while enrolled as a student.
- *Forging, falsifying or misusing university documents, records, identification cards, or other documents* so as to violate the requirement of academic honesty.
- *Infraction of rules and regulations established by university authority* to protect the interests of the university community. These rules and regulations assure that all members of the university community will be able to attain their educational objectives without hindrance in a conducive intellectual and educational atmosphere throughout the university community. Further they protect the activity, health, safety,

welfare, and property of all members of the university community and of the university itself. These policies also pertain to student conduct when representing the RSPH in academically-related and/or community activities. These policies may be found on the Emory University website at <http://policies.emory.edu/8.1>.

- *Sexual harassment and sexual misconduct* include unwelcome sexual advances, requests for sexual favors, stalking, and other verbal or physical conduct of a sexual nature. The university's policy on sexual harassment may be found on the Emory university website at <http://policies.emory.edu/1.3>. Sexual misconduct includes any incident that involves sexual contact that is forced on somebody without consent.
- *Theft* of any property of the university itself or of any property of any member of the University community, or its visitors or guests.
- *The intentional, wanton, or reckless physical abuse or verbal abuse* of any person by a student on the campus or on property owned or controlled by the university, or at a function under the university's supervision or sponsorship or such abuse of a member of the Emory community at any location or on-line forum.
- *Malicious damage/breaking and entering* by a student to the property of another member of the university community (student, faculty, or staff) or the property of the university itself, or to the property of any visitor or guest of the university or a member of the university community. Breaking into a locked room, office, or facility of the university, or entering a room, office, or facility that is clearly restricted is not permitted.
- *Disorderly conduct, disruption of class, and/or interference* by a student by violence, force, disorder, obstruction, or vocal disruption of university activity, or activity authorized or sponsored by the University or by any school, program, division or authorized student body, including disciplinary proceedings. Interference by a student with the instructor's right to conduct class as the instructor sees fit within the bounds of academic freedom and responsibility.
- *Misuse of electronic equipment and information Technology* is not permitted at Emory University. Computers, networks, and software applications are powerful tools that can facilitate Emory's core missions in teaching, learning, research, and service. Access and utilization of these tools is a privilege. Users of Emory's IT resources may not share their passwords or other access credentials; attempt to hack, bypass, or violate security controls; access, modify, or share sensitive data or information without appropriate authorization; use access credentials issued to other individuals or attempt to impersonate another individual in order to access IT resources. Additionally users of Emory's IT resources may not use those resources for any unethical or illegal purpose, such as violating copyrights or license agreements for any type of intellectual property (e.g., software, music, audio/video recordings, photographs, illustrations, documents, media files, e-journals, e-books, databases); harassing other members of the Emory community; destroying or stealing equipment, software, or data belonging to others; intentionally damaging or destroying the confidentiality or integrity of IT resources or disrupting their availability; or monitoring or disrupting the communications of others.
- *Substance use that includes the use of illicit drugs or the non-medical use of prescription drugs* is not permitted at Emory University. Users, possessors, and/or providers of such drugs violate federal laws and state laws. Students who possess or use

such drugs or who furnish drugs to others while on property owned or controlled by the university are committing a conduct offense. Additionally, providing alcoholic beverages to underage persons (under the age of 21) or to noticeably intoxicated persons is a conduct code offense, as is consuming alcohol by underage individuals, Alcohol and Drug Abuse Policy, <http://policies.emory.edu/8.8>. Tobacco use while on the property owned or controlled by the university is a conduct code offense Tobacco-Free Environment, <http://policies.emory.edu/4.113>.

- *Infractions of public law that involve and/or are linked to Emory University* that is the basis for an allegation or charge of violation of public law also may subject a student to an allegation of a student conduct violation. Acquittal or conviction in court does not necessarily exclude or dictate action by the RSPH. Further, the RSPH may proceed with a conduct matter without awaiting the start or conclusion of any legal proceeding.
- *Actions contrary to the standards of the RSPH and Emory University*, including actions that are deliberately demeaning to other human beings or that violates the dignity and integrity of other members of the University and community.

## Policies and Procedures

### Student Honor and Conduct Code Structure

**The Student Honor and Conduct Standing Council** (subsequently referenced as the council) will be formed at the beginning of each academic year. The council shall consist of no fewer than 12 faculty members representing each department and degree program and no more than 20 student members reflecting the current RSPH student-body demographics. The Associate Dean for Academic Affairs, in collaboration with the Chair of the Education Committee, will nominate the faculty members who will be members of the Council for a two-year term. Six new faculty members will be named each year to provide a staggered membership. Student membership will be comprised of students who volunteer their service or are selected by RSPH leadership. These students will serve as Honor and Conduct Code liaisons to their departments and fellow students for a one-year term. Members will be selected to serve on individual Hearing Committees based on affiliation and availability.

- *The Associate Dean for Academic Affairs*, or his/her designee, reviews the findings and recommendations for sanctions of the Hearing Committee and of the Appeal Committee.
- *The Associate Dean for Student Affairs*, or his/her designee, serves as the student honor and conduct code adviser. The student honor and conduct code adviser conducts the preliminary investigation and writes up the initial findings and determination.
- *A Hearing and Appeal Committee Facilitator*, appointed by the associate dean for student affairs, coordinates the hearing procedures and provides consistency in the processes and proceedings. The facilitator identifies council members to serve on a Hearing Committee and an Appeal Committee, prepares the agenda and the evidence, and presides over the actual proceedings to assure fair and systematic processes.
- *Student's faculty or staff adviser (non-legal)*. The student charged may ask a faculty or staff member to assist and counsel him/her in preparing for and participating in the hearing. The adviser will not have the right to examine witnesses.

- *A Hearing Committee* will be comprised of a subset of the Student Honor and Conduct Code Standing Committee, and will include four members: two faculty members and two students. The hearing committee facilitator will serve as an ex-officio, non-voting member of each Hearing Committee. The hearing committee facilitator will preside over the proceedings.

No person involved in advising the student honor and conduct code adviser or his/her designee during the preliminary investigation may serve as a voting member on the Hearing Committee for the specific proceeding. No individuals making the charge or directly involved with the case shall be members of the Hearing Committee.

In the case of an appeal, the Appeals Committee will be selected in the same method as the initial Hearing Committee and members are a subset of the council; however, no individual who served on the initial hearing committee shall sit on the appeals committee. If needed, a selected faculty member from the initial Hearing Committee may attend the Appeal Committee hearing as an ex officio, non-voting member to provide continuity with the original proceedings.

### Making an Accusation

It is the responsibility of every member of the faculty, staff, and student body to cooperate in supporting the honor code. In pursuance of this duty, any individual, when he or she suspects that an offense of academic misconduct has occurred, shall report this suspected breach to either: (a) the faculty member in whose class the suspected breach occurred; (b) a departmental assistant/associate director of academic programs (ADAP); (3) a faculty member of the Honor Standing Council; or (4) the associate dean for student affairs.

Accusations must be made within 30 days of when the alleged activity was discovered. Once an allegation has been made, the student honor and conduct code adviser will draft a written version of the complaint and the individual making that allegation must sign the complaint stating that he/she believes it to be accurate. An email of confirmation from the complainant will fulfill this requirement. The name of person making allegation will be shared with the student unless the person making the allegation submits a written request that he or she does not want his/her name shared during the preliminary investigation. If the preliminary investigation leads to a formal hearing, the name of the person making the allegation would be made known.

### Rights of the Accused Student

The accused student has the following rights:

1. Be considered innocent until judged otherwise by the Hearing Committee appointed by the student honor and conduct code adviser for this purpose.
2. The right to be notified in writing of the charges against him/her. Written documentation of the charges must include the charges against him/her with enough specificity to enable him/her to prepare for the hearing on these charges.
3. The right to choose a faculty or staff advisor (non-legal) to counsel him/her.
4. The right to a hearing before the Student Honor and Academic Code Hearing Committee facilitated by the Hearing Committee facilitator and to know the date, time, and place of the hearing. The right to know the names of witnesses who may be present at the hearing. From the time he/she receives written notice of the allegation,

the student charged has at least ten business days to prepare his/her case, unless he/she requests the hearing take place within a shorter period of time.

5. The right to receive the roster of names of the faculty and student members of the council with the notice of the formal hearing. The charged student may identify any individuals on the council who he/she would not find acceptable to serve on the Hearing or Appeal Committees. The student must provide the list of unacceptable individuals and reasons for their exclusion to the Hearing and Appeal Committee Facilitator within 48 hours of receiving the roster. The Hearing and Appeal Committee facilitator will consider the written request of the person charged when she/he nominates members of these committees.
6. The right to be present during the hearing and/or appeal while all evidence is presented; the accused student does not have the right to be present during deliberations or voting of the committee. If the accused student is not present at the proceeding, it will be conducted with the accused student in absentia.
7. The right to have access to all written statements presented to the Hearing Committee and be allowed to hear and question witnesses who appear at the hearing.
8. The right to appeal the findings of the hearing. A student who wishes to appeal the decision of the Hearing Committee must make such a request in writing to the associate dean for academic affairs. The written appeal must be made within 10 business days of receiving written notice of the Hearing Committee's findings and sanctions. (see Appeals).
9. After the determination of guilt is established, the Honor Code Committee will be informed of prior honor and conduct code violations and the current status of the student, before sanctions are recommended to the associate dean for academic affairs.

#### **Preliminary Investigation and Arbitration**

The associate dean for student affairs serves as the student honor and conduct code adviser, or can appoint another official of the RSPH to fill this role. The prehearing process consists of a preliminary investigation with the possibility of going into arbitration. The preliminary investigation is designed to determine if there is sufficient evidence to substantiate a potential honor or conduct code violation. The student honor and conduct code adviser will have 10 business days to review the complaint report and determine whether evidence supports future action. The student honor and conduct code adviser may decide that insufficient evidence exists to substantiate a potential violation. In this case, charges will be dropped. If the student honor and conduct code adviser decides that evidence warrants further action, the adviser will notify the accused student in writing that he/she must make an appointment to meet with the adviser within five business days to review the complaint report. If the accused student fails to schedule or attend the meeting within that time frame, formal charges will be filed.

There are four possible outcomes of the preliminary investigation:

1. *Charges are dropped:* The student honor and conduct code adviser finds that there is not sufficient evidence to proceed. In this case, charges are dropped.
2. *Case is referred to the Hearing Committee:* The student honor and conduct code adviser finds that there is sufficient evidence to support a guilty disposition but believes that the case, because of unusual circumstances or evidence, warrants a review by the Hearing Committee. These cases will go to a formal hearing.

3. *Arbitration:* The student honor and conduct code adviser finds that there is sufficient evidence to support a guilty disposition and offers appropriate disciplinary action to the student and the other parties involved. Within five business days of the initial meeting with the accused, the student honor and conduct code adviser will meet separately with all parties such as the accused, the witnesses, and the faculty member to acquire additional information regarding the alleged incident. Arbitration can have two outcomes:

*Arbitration A:* If all parties are satisfied with the findings and the proposed disciplinary action, the case will be considered successfully resolved and no further action will be taken. The issue and the final decision will be appropriately documented and maintained in the official student file to inform on any future allegations that may be brought forward.

*Arbitration B:* If either the accused student or the other parties do not agree with the guilty determination or do not believe the recommended disciplinary action is appropriate, the case will go to a formal hearing.

#### **Formal Hearing**

If it has been decided that the case will proceed to a formal hearing, the accused will have no less than 10 business days between the date that the student receives written notice of the charges to prepare his/her case, unless the accused student requests that the hearing take place within a shorter period of time.

1. The Hearing Committee Facilitator is responsible for conducting the hearing in a fair and impartial manner.
2. At the hearing, the alleged violation will be read. Evidence against the student will be presented by the Hearing Committee Facilitator, followed by questions from the Hearing Committee and the accused student. The Facilitator then presents the evidence provided by the accused student, and the Hearing Committee members again may ask questions.
  - a. Evidence shall be admitted without regard to the rules of evidence in courts of law.
  - b. Evidence may include, but is not limited to, witnesses, documents, tangible evidence, and written statements from witnesses not present.
3. After thorough review of the case, the Hearing Committee will decide whether the person charged is guilty or not guilty of the charge(s). A majority vote of the committee will suffice for a finding of a violation. An abstention is not considered a vote. If the accused student is not present at the hearing, the hearing will be conducted with the accused student in absentia.
- 4a. If the person is found guilty of an academic violation, the Hearing Committee may recommend one or more of the following actions, or such other action as the Hearing Committee deems appropriate:
  - a. Issue the student a warning with no further disciplinary action.
  - b. Request that the faculty re-evaluate the assignment in question and re-calculate the grade.

- c. Issue a failing grade on the assignment or for the course in question.
  - d. Place the student on academic probation for the remainder of the term or longer.
  - e. Suspend the student for the remainder of the semester or longer.
  - f. Dismiss the student from school.
- 4b. If the person is found guilty of a conduct code violation, the Hearing Committee may recommend one or more of the following actions, or such other action as the Hearing Committee deems appropriate.
- a. Issue the student a warning with no further disciplinary action.
  - b. Issue the student a warning with a requirement to make amends (apology, service, etc.)
  - c. Place the student on probation for a specified period of time.
  - d. Suspend the student for the remainder of the semester or longer.
  - e. Dismiss the student from school.
5. The associate dean for academic affairs will receive the Hearing Committee decision and recommendations for sanctions in writing within three business days of the hearing's close. The associate dean for academic affairs may choose to accept the recommendations for sanctions or suggest modifications to the recommended sanctions. The associate dean for academic affairs will communicate his proposed modifications to the Hearing Committee within three business days of receiving the Hearing Committee's decision and recommendations. The Hearing Committee will collaborate with the associate dean for academic affairs to reach a consensus on the appropriate sanctions. The associate dean will send a letter to the charged student indicating the findings of the Hearing Committee, and the sanctions that will be taken. The finding will be made available to the accuser upon request. The associate dean for academic affairs will report any action taken to the appropriate University, RSPH, and/or other officials.
6. A copy of the written notification will be included in the student's official school file. A copy will also be maintained in the Honor and Conduct Code database as part of a permanent record. If the student violates the honor or conduct standards again, the sanctions would be harsher with the possibility of suspension or even dismissal.

### Appeals

A student who wishes to appeal the Hearing Committee's decision must make such a request in writing to the associate dean for academic affairs. The written appeal must be made within 10 business days of receiving written notice of the Hearing Committee's findings and sanctions from the associate dean for academic affairs. In the letter to the associate dean for academic affairs, the student must indicate the reasons for the appeal.

After reviewing the request for appeal, an Appeal Committee will be appointed to review the charge(s), finding(s), and recommendation(s).

1. The Appeal Committee:
  - a. Shall be composed of members of the Council. It will consist of one student, two faculty members, and the Hearing and Appeal Committee Facilitator. The Hearing



and Appeal Committee Facilitator will be responsible for conducting the hearing in a fair and impartial manner, and will be a non-voting member of the Appeal Committee. No voting member of the Appeal Committee shall have participated in the previous Hearing Committee. No member of the Appeal Committee can be involved in the case. If needed, a selected faculty member from the initial Hearing Committee may attend the Appeal Committee Hearing as an ex officio, non-voting member to provide continuity with the original proceedings.

- b. Shall be furnished with all written data concerning the formal hearing, including evidence presented, committee findings, and sanctions.
  - c. May request oral or written statements from the accused student and other witnesses, and may request that additional documentary evidence be presented.
  - d. Shall require a majority vote for a decision. An abstention is not considered a vote.
2. The following actions may be recommended by the Appeal Committee:
    - a. Affirm the prior decision.
    - b. Reverse the prior decision.
    - c. Modify the prior decision.
    - d. Decide that the case merits a new Formal Hearing. This hearing will be conducted in accordance with the original hearing procedures. In this case, the Hearing Committee will be composed of faculty and students who did not take part in the original Hearing Committee.
  3. Within three business days of the Appeal Hearing's close, the Appeal Committee will inform the associate dean for academic affairs in writing of its decision and recommended sanctions. The associate dean for academic affairs may:
    - a. Affirm the prior decision.
    - b. Recommend that the Appeals Committee revise the sanctions.

The associate dean for academic affairs will send his recommendations for revisions to the Appeal Committee within three business days of receiving the committee's decision and recommended sanctions. If revisions are recommended, the associate

dean for academic affairs will communicate his proposed modifications to the Appeal Committee within three business days of receiving the Appeal Committee's decision and recommendations. The Appeal Committee will collaborate with the associate dean for academic affairs to reach a consensus on the appropriate sanctions. The associate dean for academic affairs will write a letter with the final determination. The student charged with a violation shall be notified in writing of the decision and recommended sanctions within five business days. A copy of the letter will be placed in the student's file. If the Appeal Committee overturns the original finding, previous letters of notification will be removed from the student's file as appropriate.

### Significant Violations of the Conduct Code

In the case of significant or extreme violations of the conduct code, the RSPH school administration may act outside the protocols listed herein in order to take necessary, protective action to insure that members of the RSPH committee are not subject to imminent harm. Significant or extreme violations include, but are not limited to, instances of physical assault, sexual assault, sexual harassment, breaking and entering, brandishing a weapon or other situation in which the administration perceives a likely imminent threat of physical harm to a member of the RSPH community. Such significant violations will be referred to the Emory University Threat Assessment Team and managed by the Associate Dean for Academic Affairs.

*Nothing in this document constitutes a contract or creates a contractual obligation on the part of the Rollins School of Public Health and/or Emory University. The Rollins School of Public Health reserves the right to interpret and apply its policies and procedures, and to deviate from these guidelines, as appropriate in the particular circumstances and in accordance with the mission and goals of the Rollins School of Public Health and/or Emory University. The Rollins School of Public Health further reserves the right to alter or modify any statement contained in this document without prior notice.*

Cases that involve sexual misconduct, sexual harassment, stalking, and/or sexual violence will be reported to the Emory University Title IX Coordinator in compliance with federal regulations as outlined in Title IX. Because of the sensitivity of such cases and depending on the nature of the alleged incident, the case may be investigated by the University Title IX Coordinator and/or designee and may be heard by a centralized hearing process.

In addition to the reporting of the incident to the Central Office, the basis of the hearing is preponderance of evidence which is based on patterns of behavior as opposed to undisputed factual evidence. Additionally both the accused and the accuser are advised of the findings of the case, and both have the right to appeal the decision.

### Master of Public Health

Students pursuing a Master of Public Health (MPH) are required to complete forty-two semester hours of credit and a practicum. Prospective students must designate one of six departments when applying to the school: behavioral sciences and health education (BSHE), biostatistics and bioinformatics (BIOS), environmental health (EH), epidemiology (EPI), health policy and management (HPM), or global health (GH). There are also joint MPH programs with the departments of Environmental Health and Global Health (Global Environmental Health, GEH) and the departments of Global Health and Epidemiology (Global Epidemiology). The number of required and elective courses within a specific department varies.

### Master of Science in Public Health

Students pursuing a Master of Science in Public Health (MSPH) are required to complete forty-eight semester hours of credit and a required practicum. Prospective students must designate one of the following departments when applying to the school: biostatistics and bioinformatics (BIOS), epidemiology (EPI), health policy and management (HPM), or global health (GH). There are also joint MSPH programs with the departments of Environmental Health (EH) and Epidemiology (EPI) and the departments of Global Health and Epidemiology. The number of required and elective courses within a specific department varies.

### Practicum

A practicum is a unique opportunity for graduate students to integrate and apply practical skills and training learned through course work and prior experiences in a professional public health work environment. In some cases, students can use a work study, graduate assistantship, or teaching assistantship position structured to meet the practicum requirement. A practicum is a significant educational experience that generally requires **200 to 400** clock hours in a public health agency, institution, or community under the supervision of site administrators and the guidance of the student's department, the Office of the Associate Dean for Applied Public Health, and/or Career Services.

Rollins School of Public Health (RSPH) students begin the practicum process their second semester of their first year through registration for the practicum course in OPUS, entry of student and practicum data in the Practicum Web Client, research and identification of practicum project, project approval by the practicum preceptor and student academic advisor, and the recording of clock hours towards the practicum requirement, as appropriate. Students may identify their practicum project during their first semester of their program, but official project goals and objectives and clocking hours toward the fulfillment of the degree requirement may not begin until the second semester of study.

All Rollins School of Public Health (RSPH) graduate students are required to submit practicum details including specific goals and objectives, objective approval, preceptor and student evaluation into the Rollins Practicum Portal. To view the Rollins Practicum Portal or find more detailed information, please visit <http://www.sph.emory.edu/rollins-life/practicum/index.html>.

### Core Courses

The following courses are required of all MPH and MSPH students. Within each department, there are exceptions to these core courses. These exceptions are listed in each department section of this catalog.

Course Number	Course Title	Credit
BSHE 500	Behavioral Sciences in Public Health	2
BIOS 500	Statistical Methods I	3
BIOS 500L	Lab	1
EH 500	Perspectives in Environmental Health	2
EPI 504 or EPI 530	Fundamentals of Epidemiology Epidemiologic Methods I	2 4
HPM 500	Introduction to the US Health Care System	2
GH 500	Critical Issues in Global Health	2



## Department of Behavioral Sciences and Health Education

[www.sph.emory.edu/departments/bshe/index.html](http://www.sph.emory.edu/departments/bshe/index.html)  
Colleen McBride, Chair

Our department's mission is to better the health of all people by advancing knowledge and training tomorrow's leaders in how to change behavior and social conditions that influence health. To this end, we have developed Masters and Doctoral curricula that emphasize the methodological skills that address and crosscut the critical public health challenges we face now and in the decades ahead. Our department stands out from others in that Atlanta is home to the Centers for Disease Control and Prevention, CARE, the American Cancer Society, the Carter Center and numerous state and regional health agencies. This provides a real-world laboratory giving unprecedented opportunities for practicum and internship experiences for trainees to apply the skills they are gaining. The faculty in our department are dedicated teachers and mentors who have been recognized for their achievements locally, nationally, and globally.

### Department Admission Criteria

Students with a variety of academic and professional backgrounds are eligible to apply to the department. Some pursue the MPH degree directly after completing their undergraduate studies in the natural sciences, social sciences, or the humanities. More often, students apply to the department after work experiences in public health. Admission is based on prior academic performance in postsecondary education, abilities as assessed by standardized tests (GRE, MCAT), and demonstrated commitment to working in public health. Completion of a college-level statistics course or other quantitative courses prior to application is highly recommended. Students are only admitted in the fall to facilitate adherence to the standard course sequence. For more information see the MPH Admissions Information area on our website.

### Behavioral Sciences and Health Education Requirements

Course Number	Course Title	Credit Hours
BIOS 500	Statistical Methods I	3
BIOS 500L	Statistical Methods I Lab	1
EH 500	Perspectives in Environmental Health	2

<b>EPI 504</b>	Fundamentals of Epidemiology	2
<b>or EPI 530</b>	Epidemiologic Methods I and Lab	4
GH 500	Critical Issues in Global Health	2
HPM 500	Introduction to the US Health Care System	2

### MPH Required BSHE Core Courses

<b>BSHE 520</b>	Theory Driven Research and Practice	3
<b>BSHE 524</b>	Community Assessment	3
<b>BSHE 526</b>	Program Planning in Health Education	3
<b>BSHE 530</b>	Program Evaluation	3
<b>BSHE 532</b>	Quantitative Data Analysis	3
<b>BSHE 538</b>	Qualitative Methods for Research & Evaluation	3
<b>BSHE 539</b>	Qualitative Data Analysis	3
<b>Or BSHE 542</b>	Socio-Behavioral Measurement	3
<b>BSHE 540</b>	Research Methods in Health Promotion	3
<b>BSHE 579</b>	Applied History of Public Health	2
<b>BSHE 590</b>	Capstone Seminar	4
<b>or BSHE 591W</b>	Thesis Mentorship	1
<b>and BSHE 599R</b>	Thesis	3
<b>BSHE 595</b>	Practicum	0

**Total credit hours** 42

### Culminating Experience

As the culminating experience of their education, students in the department are required to complete either a thesis or a capstone seminar.

Both types of projects are designed to be original publishable research and/or a contribution to the knowledge base of behavioral sciences and health education. Students write theses under the supervision of a thesis committee made up of a minimum of two members. The chair must be a BSHE faculty member. Public health agencies in the area often provide research topics and support for studies. In the capstone seminar students are asked to apply and integrate the skills and competencies gained during their training to a select topic.

### Admission Requirements for the PhD Degree

To be admitted into the PhD program in Behavioral Sciences and Health Education, a student must complete all the admission requirements specified by the Laney Graduate School. Students must have completed a master's degree. Those with a master's degree outside of public health may need to take additional public health courses beyond the core doctoral curriculum.

To select the entering cohort, the department considers performance in undergraduate and graduate courses, standardized exam performance (Graduate Record Examination scores taken within the previous five years), letters of recommendation, research or published papers, fit with departmental areas of scientific strength, and other relevant experience. We recommend a verbal reasoning score of at least 590 (or 159 for those applicants who tested on or after August 1, 2011), a quantitative reasoning score of at least 680 (or 153 for those who tested on or after August 1, 2011), and an analytical writing score of 4 or 5. International students whose native language is not English must attain a score

of 560 or more on the paper Test of English as a Foreign Language (TOEFL) or a score of 100 or higher on the computer-based TOEFL. Please see the Behavioral Sciences and Health Education Departmental website for complete degree requirements:

<https://www.sph.emory.edu/departments/bshe/programs/phd/index.html>

Students apply for this program through the Laney Graduate School. The online application and additional instructions are provided at <http://www.gs.emory.edu/admissions/index.html>. The deadline for applications to the PhD program is December. 1

### Financial Assistance for the Behavioral Sciences and Health Education PhD Program

Students admitted to the BSHE PhD Program receive merit-based support packages consisting of full tuition scholarships each year and annual stipends for two years. The awards are renewed each year, contingent upon satisfactory academic performance. Doctoral students receive annual stipends for the initial two years and in following years typically have the opportunity to be supported on research projects by faculty investigators, fellowship and/or grant funding obtained by the student, and by teaching in BSHE. Students may work as research assistants or in other activities related to their professional development during the summer months for additional income. Some courses may be required in the summer semesters. Required courses are listed in the course description section.

### Faculty

**Melissa (Moose) Alperin**, Research Assistant Professor. AB, Brown University, 1988; MPH, Emory University, 1991; EdD, University of Georgia, 2015. Public health workforce development; competency-based instruction; distance education and online instruction; scholarship of teaching and learning.

**Kimberly R. Jacob Arriola**, Professor and Associate Dean for Academic Affairs. BA, Spelman College, 1994; MA, Northeastern University, 1996; PhD, 1998; MPH, Emory University, 2001. Improving public commitment to organ and tissue donation; equity in access to transplant; the development and evaluation of culturally sensitive health promotion interventions.

**Carla J. Berg**, Associate Professor. BA, Dakota Wesleyan University, 2001; MA, University of Kansas, 2003; PhD, 2007. Cancer prevention; health disparities; multiple health risk behaviors; tobacco control; young adults and adolescents; positive psychology.

**Linelle Blais**, Associate Research Professor. BA, Rhode Island College, 1986; PhD, University of Rhode Island, 1993. Individual and organizational change, program development and evaluation, and translation of science to practice.

**Gene H. Brody**, Research Professor. BA, University of California, 1972; MA, University of Arizona, 1973; PhD, 1976. Family influences on intellectual, social, and personality development; factors that protect children and adolescents at risk; contributions of sibling relationships to social and personality development; interrelationships among marital quality, parenting, and developmental outcomes.

**Dawn L. Comeau**, Research Associate Professor. BA, Simmons College, 1991; MA, San Diego State University, 2000; MPH/PhD, Emory University, 2009. Social determinants of health and health disparities, sexual identity, HIV, community-based research, program evaluation, and curriculum design.

**Hannah L. F. Cooper**, Associate Professor. BA, Yale University 1993; SM, Harvard University, 1998; ScD, 2003. Social epidemiology of drug use and drug-related harms; qualitative research methods; health disparities; urban health; epidemiologic and social theory; drug policy and related police strategies; geospatial and multilevel methods.

**Natalie D. Crawford**, Assistant Professor. BS, Spelman College, 2004; MPH, Columbia University, 2006; PhD, 2011. Social determinants of health and health disparities.

**Ralph J. DiClemente**, Charles Howard Candler Professor; Associate Director, Prevention Sciences and Co-Director, Developmental Core, Emory Center for AIDS Research (CFAR). BA, City University of New York, 1974; MS, Harvard School of Public Health, 1978; PhD, University of California, San Francisco, 1984. Design and evaluation of STD/HIV and vaccine interventions tailored for adolescents and women.

**Kirk Elifson**, Research Professor. BA, Knox College, 1965; MA, Vanderbilt University, 1968; PhD, 1972. Substance abuse, HIV/AIDS, methodology, violence.

**Cam Escoffery**, Associate Professor. BS, Emory University, 1992; MPH, 1995; PhD, University of Georgia, 2002. Cancer prevention and control, chronic disease prevention and self-management, implementation science.

**Regine Haardörfer**, Research Assistant Professor. BS, Universität Erlangen-Nürnberg; MS, State of Bavaria; d, Western Governors University; PhD, Georgia State University. Research methodology, CBPR, multilevel modeling, structural equation modeling, tobacco control, weight gain prevention.

**Kimberly S. Hagen**, Research Assistant Professor; Assistant Director, Emory Center for AIDS Research (CFAR). BA, University of the South, 1979; MEd, University of Georgia, 1995; EdD, 1998. HIV/AIDS, vaccines, politics of program planning, curriculum development, instructional design, public health program evaluation.

**Kelli Stidham Hall**, Assistant Professor. BS, University of Kentucky, 2003; MS, University of Kentucky, 2003; M.Phil, Columbia University, 2009; PhD, Columbia University 2009. Unintended pregnancy and contraceptive behavior; social determinants of family planning; adolescent sexual and reproductive health.

**Michelle C. Kegler**, Professor. BA, University of Minnesota-Minneapolis, 1983; MPH, University of Michigan, 1985; DrPH, University of North Carolina-Chapel Hill, 1995. Community-based chronic disease prevention, tobacco control, obesity prevention, program evaluation, and coalitions/community partnerships.

**Kelli A. Komro**, Professor. BA, University of Wisconsin – Milwaukee, 1987; MA, Connecticut College, 1989; MPH, University of Minnesota, 1991; PhD, 1994. Community-based participatory research.

**Delia L. Lang**, Research Associate Professor, Director, MPH Program; and Director, Office of Evidence Based Learning. BA, California State University at San Bernardino, 1994; MA, 1997; MPH, Loma Linda University, 1999; PhD, 2001. Public mental health, public health pedagogy.

**Richard M. Levinson**, Charles Howard Candler Professor and Executive Associate Dean for Academic Affairs. BA, University of Connecticut, 1964; MA, University of Wisconsin, 1966; PhD, 1975. Social determinants of health risk behavior, access to and utilization of health services.

**Colleen M. McBride**, Grace Cnum Rollins Professor and Chair. BA, University of Wisconsin, 1980; MA, University of Arizona, 1982; PhD, University of Minnesota, 1990. Behavioral epidemiology and genomics.

**Lisa McCormick**, Research Assistant Professor. BS, University of Southern Mississippi, 1992; MPH, University of Alabama at Birmingham, 2000; DrPH, 2010. Emergency medical care; emergency medicine.

**Kathleen R. Miner**, Professor and Associate Dean for Applied Public Health. BA, California State University, Long Beach, 1968; MEd, Georgia State University, 1979; MPH, Emory University, 1979; PhD, Georgia State University, 1984. Design and evaluation of domestic and international community-based interventions focused on public health workforce development with an emphasis on adult education based competency-based instruction in areas that include tobacco use prevention and control; diabetes and chronic disease prevention; graduate professional education; public health informatics; and bioterrorism and disaster preparedness.

**Eric J. Nehl**, Research Assistant Professor. BS, Ball State University, 1998; MS, 2001; PhD, Indiana University, 2009. Cancer prevention; health disparities; multiple health risk behaviors; research methods, measurement, and statistics; public health theory.

**Anna Rubtsova**, Research Assistant Professor. BA, Kiev Polytechnic University, 1996; M.Sc., London School of Economics and Political Science, 1999; MA, Emory University, 2008; PhD, 2011. HIV/AIDS prevention; maternal and child health; sexual health/behavior; psychosocial aspects of aging and women aging with HIV.

**Jessica M. Sales**, Associate Professor. BS, University of Iowa, 1998; MA, Emory University, 2000; PhD, Emory University, 2004. Adolescent health; maternal and child health; HIV prevention; STI prevention; sexual health promotion; reproductive health; biopsychosocial approach to health research; life course approach to health research.

**Claire E. Sterk**, Charles Howard Candler Professor and President. Doctoral, University of Utrecht, 1983; PhD, Erasmus University Rotterdam, 1990. Social determinants of health; design and evaluation of health promotion programs for special populations; epidemiology of drug use; mental health; HIV/AIDS.

**Colin L. Talley**, Research Associate Professor. BA, University of Houston, 1988; MA, San Diego State University, 1993; MA, University of California, San Francisco, 1995; PhD, 1998. Lesbian, gay, bisexual, transgender, and queer public health; history of HIV/AIDS; health disparities; history and social studies of multiple sclerosis; history of public health, medicine, and disease in the United States.

**Lisa A. Tedesco**, Professor and Dean, Graduate School. BS, University of Bridgeport, 1972; MEd, State University of New York at Buffalo, 1975; PhD, 1981. Behavioral determinants of oral health, education policy.

**Nancy J. Thompson**, Professor. BA, Emory University, 1971; MPH, 1977; PhD, Georgia State University, 1989. Mental health; mindfulness and health; behavioral and psychiatric epidemiology; injury and violence prevention and control.

**Winifred Wilkins Thompson**, Research Assistant Professor. BSEd., University of Georgia, 1992; MSW, 1994; PhD, University of South Carolina, 2006. Research includes investigating the social determinants of health in conjunction with how psychosocial and spiritual factors contribute to a woman's health and wellness. Specific areas: Holistic Health, Maternal Child Health, Lay Patient Navigation, Breast and Gynecologic cancers.

**Alexander C. Wagenaar**, Research Professor. BA, Calvin College, 1977; MSW, University of Michigan, 1978; PhD, 1980. Public health law research; public policy evaluation; time-series research designs; injury prevention; alcohol control policy; health effects of economic security policies; inequality and disparities

**Elizabeth Walker**, Research Assistant Professor. BA, University of Rochester, 2002; MAT, Johns Hopkins University, 2005; MPH, Emory University, 2008; PhD, Emory University, 2013. Mental health, comorbidity of mental disorders and chronic conditions, and scholarship of teaching and learning.

**Michael Windle**, Professor. BA, University of Missouri–St. Louis, 1977; MA, Southern Illinois University–Edwardsville, 1980; PhD, Pennsylvania State University, 1984. Alcohol and drug use among youth, youth violence, mental health.

## Jointly Appointed Faculty

**Karen L. Andes**, Research Assistant Professor. BA, Arizona State University, 1987; MA, Northwestern University, 1989; PhD, 1994. Emory University, Hubert Department of Global Health.

**Benjamin Druss**, Professor. BA, Swarthmore College, 1985; MD, New York University, 1989; MPH, Yale University, 1995. Emory University, Department of Health Policy and Management.

**Dabney Evans**, Research Assistant Professor. Executive Director, Institute of Human Rights. BA, Arizona State University, 1996; MPH, Emory University, 1998; PhD, University of Aberdeen, 2010. Emory University. Hubert Department of Global Health

**Paula Frew**, Assistant Professor. BA, University of California at San Diego, 1990; MA, San Diego State University, 1997; MPH, Emory University, 2001; PhD, University of Georgia, 2007. Emory School of Medicine, Department of Medicine, Division of Infectious Diseases.

**Laurie Gaydos**, Associate Professor. BA, Brown University, 1998; PhD, 2004, UNC Chapel Hill. Department of Health Policy and Management

**Julie Gazmararian**, Associate Professor. BBA, University of Michigan, 1983; MPH, University of South Carolina, 1985; PhD, University of Michigan, 1982. Emory University, Department of Epidemiology.

**Carol R. Hogue**, Professor. AB, William Jewell College, 1966; MPH, University of North Carolina at Chapel Hill, 1971; PhD, 1973. Emory University, Department of Epidemiology.

**Debra Houry**, Associate Professor. BS, Emory University, 1994; MPH, Tulane University, 1998; MD, 1998. Emory University School of Medicine.

**Kara L. Jacobson**, Senior Associate. BA, Emory University, 1991; MPH, 1993. Emory University, Department of Health Policy and Management, Emory Center on Health Outcomes and Quality.

**Melissa Kottke**, Associate Professor. BS, Iowa State University, 1997; MD, University of Minnesota, 2001; MPH, Emory University, 2009; EMBA, Emory University, 2012. Emory University School of Medicine, Department of Gynecology and Obstetrics.

**David J. Malebranche**, Assistant Professor. BA, Princeton University, 1990; MD, Emory University, 1996; MPH, Columbia University, 2001. Emory University School of Medicine.

**Ighowwera Oforokun**, Professor. BSc, 1983, University of Ibadan; MB:BS, 1990, University of Benin; MSc, 2005, Emory University. Emory University School of Medicine, Division of Infectious Diseases.

**Barbara O. Rothbaum**, Professor, Director of the Trauma & Anxiety Recovery Program. BA, University of North Carolina at Chapel Hill, 1982; MSc, University of Georgia, 1984; PhD, University of Georgia, 1986. Emory University School of Medicine, Department of Psychiatry.

**Drenna Waldrop-Valverde**, Professor. BS, University of Alabama, 1993; MS, University of Southern Mississippi, 1995; PhD, University of Memphis, 1999. Nell Hodgson Woodruff School of Nursing.

**Kathryn M. Yount**, Asa Griggs Candler Chair of Global Health. BA, University of North Carolina, Chapel Hill, 1991; MHS, Johns Hopkins Bloomberg School of Public Health, 1994; PhD, 1999. Emory University, Hubert Department of Global Health.

## Adjunct Faculty

**Martha E. Alexander**, Adjunct Instructor. BA, University of Kentucky, 1978; MA, University of Tennessee, 1979; MPH, Emory University, 1986.

**Daniel Crimmins**, Adjunct professor. BA, State University of New York at Binghamton, 1975; MA, State University of New York at Binghamton, 1978; PhD, State University of New York at Binghamton, 1984.

**Robert J. Davis**, Adjunct Professor. AB, Princeton University, 1986; MPH, Emory University, 1990; PhD, Brandeis University, 1993. Everwell TV.

**Teaniese Davis**, Adjunct Assistant Professor. BA, Spelman College, 2001; MPH, University of Maryland, College Park, 2004; PhD, University of Georgia, 2012.

**Linda DeGutis**, Adjunct Professor. BS, DePaul University, 1975; MSN, Yale University, 1982; DrPH, Yale University, 1994.

**Kristen Dunkle**, Adjunct Assistant Professor. Adjunct Assistant Professor. BA, Case Western Reserve University, 1994; MPH, University of Michigan, 2000; PhD, 2003.

**Mary Frederickson**, Visiting Professor. BA, Emory University, 1971; PhD, UNC Chapel Hill, 1981.

**Ariela Freedman**, Adjunct Assistant Professor. BA, Lawrence University, 2000; MAT, National Louis University; MPH, University of Minnesota, 2006; PhD, Emory University, 2011.

**Karen Glanz**, Adjunct Professor. BA, University of Michigan, 1974; MPH, 1977; PhD, 1979. University of Pennsylvania.

**Kathy Hageman**, Adjunct Assistant Professor. BA, University of Iowa, 1993; MPH, Emory University, 2005; PhD, Emory University, 2010.

**Na He**, Adjunct Professor. MD, Shanghai Medical University, 1991; MS, 1994; PhD, University of California at Los Angeles, 2003; Professor and Vice-Chair, Department of Epidemiology, Fudan University School of Public Health.

**Jarrold M. Jackson**, Adjunct Assistant Professor. BA, Florida State University, 2006; MSW, Florida State University, 2008; PhD, Mount Sinai School of Medicine, 2013.

**Camara Jones**, Adjunct Professor. BA, Wellesley College, 1976; MD, Stanford University, 1981; MPH, Johns Hopkins University, 1982; PhD, 1995. US Centers for Disease Control and Prevention.

**Cynthia M. Jorgensen**, Adjunct Assistant Professor. BA, Boston University, 1981; MA, 1982; PhD, University of North Carolina-Chapel Hill, 1988. U. S. Centers for Disease Control and Prevention.

**Carol Koplan**, Adjunct Assistant Professor. BA, Brandeis University, 1964; MD, Tufts University, 1968.

**Howard Kushner**, Professor Emeritus. AB, Rutgers University, 1965; MA, Cornell University, 1968; PhD, 1970.

**Corinne Leach**, Adjunct Assistant Professor. BA, Franklin and Marshall College, 2000; MS, Villanova University, 2002; PhD, University of Kentucky, 2008; MPH, Harvard University, 2009.

**Anthony F. Lemieux**, Adjunct Assistant Professor. BA, Boston College, 1997; MA, University of Connecticut, 2000; PhD, 2003.

**David McQueen**, Adjunct Professor. BA, Antioch College, 1963; MA, John Hopkins University, 1967; ScD, John Hopkins University, 1973.

**Jean O'Conner**, Adjunct Associate Professor. BS, Emory University, 1998. MPH/JD, Emory University, 2001. DrPH, University of North Carolina at Chapel Hill, 2009.

**Ashli Owen-Smith**, Adjunct Assistant Professor. BA, Smith College, 2001; MSPH, Harvard University, 2005; PhD, Emory University, 2009.

**Julia Ellenberg Painter**, Adjunct Assistant Professor. BA, Cornell University, 2001; MPH, Johns Hopkins University, 2005; PhD, Emory University, 2010.

**Shilpa Narendra Patel**, Adjunct Assistant Professor. BA, University of California at Riverside, 1997; MPH, Boston University, 1999; PhD, Emory University, 2012.

**Jennie P. Perryman**, Adjunct Instructor. AB, Georgia State University, 1974; MSN, Medical College of Georgia, 1978; PhD, Georgia State University, 1999. Transplant Center, School of Medicine

**Eric Pevzner**, Adjunct Associate Professor. BS, Michigan State University, 1995; MPH, Emory University, 1998; PhD, University of North Carolina at Chapel Hill, 2005.

**William Pridemore**, Adjunct Professor. BA, Indiana University, 1992; MA, Indiana University, 1994; PhD, University of Albany, 2000.

**JaNelle Ricks**, Adjunct Assistant Professor. BA, Ohio University, 2004; MPA, 2010; DrPH, University of Kentucky, 2013.

**Puja Seth**, Adjunct Assistant Professor. BS, College of Charleston, 2000. MA, UNC Wilmington, 2002. PhD, University of Georgia, 2007.

**Elisabeth Sheff**, Adjunct Assistant Professor. BA, California State University at Sonoma, 1994; PhD, University of Colorado at Boulder, 2005.

**David Sleet**, Adjunct Professor. BA, San Diego State University, 1966; MA, 1968; PhD, University of Toledo, 1973. US Centers for Disease Control and Prevention.

**Iris Smith**, Professor Emeritus. BA, Fordham University, 1971. MPH, Emory University, 1979. PhD, Georgia State University, 2000.

**Kevin D. Stein**, Adjunct Assistant Professor. BS, University of Florida, 1990; MA, University of South Florida, 1994; PhD, 1996. American Cancer Society. (Make two lines – not 4)

**Jo Ellen Stryker**, Adjunct Assistant Professor. BA, University of Massachusetts, 1995; MA, University of Pennsylvania, 1998; PhD, 2001. Health campaigns; mass media and public health; communication and health behavior. US Centers for Disease Control and Prevention.

**Andrea Linn Swartzendruber**, Adjunct Assistant Professor. BA, Goshen College, 1994; MPH, Emory University, 1999; PhD, Johns Hopkins, 2012.

**Florence Kpulaban Tangka**, Adjunct Professor. BS, University of Reading, UK, 1989; MS, Rutgers University, 1994; PhD, University of Florida, 2001.

**Melissa Taylor**, Adjunct Instructor. BA, York College; MA, University of Maryland. Director, Strategic Planning, and Research Senior Vice President, Porter Novelli.

**J. Lee Westmaas**, Adjunct Assistant Professor. BA, University of Waterloo, 1989; MA, University of California–Irvine, 1994; PhD, University of California–Irvine, 1996.

**Kari White**, Adjunct Assistant Professor. BA, University of New Mexico, 1998; MA, 2001, University of Arizona; MPH, Tulane University, 2003; PhD, University of Texas at Austin, 2011.

**Gina Wingood**, Adjunct Professor. BA Boston University, 1985; MPH, UC Berkeley, 1990; ScD, Harvard University, 1995.

**Eric Wright**, Adjunct Professor. BA, Lewis and Clark College, 1984; MA, Indiana University, 1987; PhD, Indiana University, 1994.

## Behavioral Sciences and Health Education Course Descriptions

### BSHE 500 (2) Behavioral and Social Sciences in Public Health

This core course describes behavioral, social and cultural factors that contribute to health and well-being of individuals, communities and populations. The course contributes to an ecological view of health.

### BSHE 512 (3) Medical Sociology

Surveys sociological and social/psychological research in selected areas of medical sociology. Familiarizes the student with dominant theoretical orientations and associated empirical research.

### BSHE 516 (3) Behavioral Epidemiology

Prerequisites: BIOS 500 and EPI 530, or consent of the instructor. Provides the student with basic knowledge about epidemiological applications in a behavioral area. Content stresses ways in which behavioral research differs from other applications of epidemiology with respect to approaches to measurement, terminology, and analytic methods

### BSHE 517 (2) Adolescent Health

Introduces the major issues in adolescent health, such as physical and psychosocial growth, teenage pregnancy, HIV/AIDS, substance abuse, and violence and abuse. Examines adolescent health services and adolescent health care-seeking behavior. Presents students with the major theoretical perspectives in adolescent health from an interdisciplinary point of view.

### BSHE 520 (3) Theory Driven Research and Practice

Introduces the basic principles and functional areas of health promotion and education. Describes prevalent educational and psychological theories of learning and behavior change used by health educators in a variety of work settings. Explores considerations for incorporating health promotion and education activities into the design of local, regional, national, and international public health programs. Students plan activities for health promotion and education.

### BSHE 522 (3) Principles of Curriculum and Instruction in Health Education

Prerequisite or co-requisite: BSHE 520. Introduces methods used by education practitioners in designing health interventions. Presents decision-making models for health education strategies selection for specific target populations. Explores techniques in group facilitation, mass communication, behavior modification, classroom instruction, and organizational development. Students will conduct health promotion and education activities.

### BSHE 524 (3) Community Assessment

Prerequisites: EPI 504 or EPI 530; BIOS 500; BSHE 520; or consent of the instructor. Encompasses the development of data about the health status, knowledge, perceptions, attitudes, motivation, and health practices of a population or community and its socioeconomic environment. The instructor facilitates the student application of assessment methodology to a community project.

### BSHE 526 (3) Program Planning in Health Promotion

Students learn and apply basic program planning skills, including problem analysis, needs assessment, intervention design, implementation and evaluation

### BSHE 530 (3) Program Evaluation

Prerequisites: BSHE 520; BSHE 540; BSHE 532; and BIOS 500; or consent of the instructor. Covers all aspects of evaluation research, including formative process, outcome evaluations, and issues related to the collection and analysis of both quantitative and qualitative data. The instructor facilitates the student application of evaluation methodology to a community project.

### BSHE 532 (3) Quantitative Analysis

Prerequisite or co-requisite: BIOS 500. This data analysis class provides the student with the skills necessary to identify and analytically investigate research questions from

existing databases and to create new databases. In addition, students will learn how to present data and report results.

#### **BSHE 535 (2) Macrosocial Determinants of Health**

Advances understanding of how macrosocial factors (also called “contextual” or “structural” factors) affect health. Introduces students to the theoretical underpinnings of related research, current methodological and conceptual challenges, and interventions to improve population health by altering macrosocial factors or mitigating/amplifying their effects. The course has three modules, one on each of the following sets of macrosocial determinants: (1) Policies, Laws, and Their Enforcement; (2) Neighborhood Physical Environment; and (3) Neighborhood Social Environment.

#### **BSHE 538 (3) Qualitative Methods for Research and Evaluation**

Prerequisites BSHE 520 or consent of the instructor. Focuses on the acquisition of interpretive, behavioral, and analytic strategies that social scientists use to understand social reality. Students are expected to undertake their own qualitative studies, as well as to learn the philosophical underpinnings of the method. Classic ethnographic studies, particularly those with applicability to public health, serve as models for learning techniques and conducting research

#### **BSHE 539 (3) Qualitative Data Analysis**

Prerequisite: BSHE 538. This course allows students to develop mastery of a variety of practical techniques and theoretical approaches to qualitative data analysis, including the use of qualitative data analysis software (MAXqda). Students will be given the option of conducting lab exercises on an expanded set of secondary data or students’ own data that was collected as part of their MPH or PhD thesis research.

#### **BSHE 540 (3) Research Methods in Health Promotion**

This course provides students with the fundamental language, concepts, and constructs associated with the scientific approach, including inductive and deductive reasoning, the role of theory, problem definition, and hypothesis formulation. It provides instruction in the design, implementation, and analysis of health behavior research studies. The theory and analytic strategies for various research designs, including choice of comparison groups, as well as examples of appropriate applications, are presented

#### **BSHE 542 (2) Socio-Behavioral Measurement**

Prerequisites: BSHE 520; BSHE 540; BSHE 532; BIOS 500; or consent of the instructor. Provides the student with information and skills related to basic measurement issues involved in assessing variables in health behavior research.

#### **BSHE 544 (3) Survey Methods**

Prerequisites: EPI 504 or 530; BIOS 500; familiarity with SAS or SPSS programming for data analysis. This course covers basic methodology necessary to implement a sample survey and to present survey findings, including survey design, sampling techniques, questionnaire design, interviewer training, coding, editing, data management, and descriptive data analysis and presentation.

#### **BSHE 545 (2) Introduction to Population Dynamics**

This course provides an interdisciplinary perspective on fundamental population processes and contemporary population issues. The focus is on theory and measurement of fertility, mortality, and migration. Other topics covered are population composition, age structure, population and development, and population policy Other topics covered include population composition, age structures, population and development, and population and reproductive health policy.

#### **BSHE 554 (2) Social Marketing in Public Health**

Prerequisite: BSHE 520, or consent of the instructor. Provides students with an overview of concepts and strategies used in social marketing and public health information campaigns; emphasizes skills to create audience-oriented public health intervention efforts, including formative research, audience segmentation, channel analysis, and the application of behavioral theory.

#### **BSHE 555 (2) Public Health Communication**

Introduces the study of public health communication including its theoretical foundations, organizational models, and strategies for intervening at multiple levels with diverse populations.

#### **BSHE 556 (2) Mass Media and Public Health**

This seminar will explore the dissemination of health information through news, popular entertainment, product advertising, and the Internet. This course will not deal with traditional mass media campaigns; instead, it will survey the literature on both positive and negative “real world” media messages related to a wide array of public health topics, exploring both impact and relevant regulatory issues. The seminar will also examine public health strategies, including media advocacy and entertainment education, to help shape media content.

#### **BSHE 560R (1-3) BSHE Seminar**

Explores and analyzes selected topics in health education and promotion. Topics have included: grant proposal writing, global program planning, health advocacy, and global health education.

#### **BSHE 563 (2) AIDS: Public Health Implications**

Explores the virologic, immunologic, clinical, preventive, educational, legal, ethical, and epidemiological aspects of infection with the human immunodeficiency virus. Emphasizes current problems in organizing governmental and non-governmental responses to the AIDS epidemic.

#### **BSHE 564 (2) Sexual Health in Global and Social Context**

Explores current issues in sexual health using the socio-ecological model as our primary framework. This course will equip students with tools to understand and positively impact contemporary debates about sexual health at the population level. Working from the perspective that health, including sexual health is “a state of complete physical, mental, and social well-being” students will explore factors that contribute to sexual health for diverse populations across a range of cultural contexts.

#### **BSHE 565 (2) Violence as a Public Health Problem**

Introduces students to the concept of violence as a public health problem. Focuses on the epidemiology, surveillance, and prevention of interpersonal and self-directed violence.

#### **BSHE 567 (2) LGBTQ Public Health**

This course will focus on the possible benefits and costs of public health organizations’ approach to consider the LGBTQ populations as special health populations with distinctive needs like those based on race, gender, or age. This course will explore key issues in public health for gay men, lesbians, bisexuals, and transgendered persons.

#### **BSHE 568 (2) Human Sexuality**

This course is designed to provide an overview of human sexuality for future public health professionals. Through discussion, interactive learning experiences, and course assignments, students will gain knowledge, increased comfort, and personal insight about such topics as sexuality in the media, language and communication, sex research, gender identity and gender

roles, sexual orientation, sexual harassment, assault, and abuse, family planning and contraception, sexually transmitted infections, and sexuality education.

#### **BSHE 571 (2) Issues in Women's Health**

Examines current and historical influences on women's health throughout the life span. Anthropological, epidemiological, sociological, and political factors relating to specific health issues are presented. In addition to gender, the variables of race and class are examined as they affect women's health.

#### **BSHE 572 (1) Health Care Issues in Minority Populations**

Examines the causes and effects of the growing disparity in the health status of African Americans, Hispanics, and Native Americans compared with the general population of the United States. Examines the major contributors to this disparity: cancer, cardiovascular disease, chemical dependency, infectious disease (including AIDS), diabetes, homicide, and infant mortality. Disease prevention and health promotion strategies to help reduce morbidity and mortality will be discussed.

#### **BSHE 575 (1) Journal Club: Problems in Public Health**

This student-led seminar will address current public health problems, especially as they relate to behavior and health education, through a close reading of recent journal articles on crucial issues facing public health practitioners. Topics to be examined are open but might include issues such as obesity, Type II diabetes, HIV/AIDS, addiction, smoking, risky behaviors, and mental health and public health.

#### **BSHE 577 (2) The Role of Faith Communities in Health Care**

Examines the role of faith communities in the provision of health care, both domestically and internationally. Emphasizes contemporary, existing programs, while considering historical connections.

#### **BSHE 578 (2) Ethics in Public Health**

Examines ethical rules, principles, and theories as they relate to public health practice and the delivery of health services through individual and institutional providers.

#### **BSHE 579 (2) Applied History of Public Health**

This course examines issues of population health affecting behavioral sciences and health education in historical and comparative perspective. By calling on the tools and disciplines of public health, students will reach a more complex understanding of how particular population health issues have been understood in different times and places and what those responses may illuminate about strategies for current and future responses.

#### **BSHE 581 (1) Strategies in Stress Reduction**

This course is designed to explore sources of stress and coping methods to prevent a wide range of physical and psychological diseases that have been correlated with stress. Students will examine models of stress, coping mechanisms, physical and psychological symptoms of stress, sources of stress, and stress prevention and reduction. This course should assist individuals in identifying personal sources of stress and coping techniques as well as providing a foundation for work in the field of public health.

#### **BSHE 583 (1) Mindfulness and Health**

Upon completion of this course, the student will be able to define mindfulness, describe its benefits for physical mental health, critically evaluate related literature, and perform mindfulness exercises.

#### **BSHE 584 (2) HPM 577 The Mental Health/Medical Interface in the United States**

This seminar explores the complex and dynamic relationship between general health and mental health in the United States. Gaps in parity and a proposal for achieving parity are discussed in the context of health reform.

#### **BSHE 585 (1) Introduction to Public Mental Health**

This course is designed to provide an overview of mental health issues from a public health perspective. It covers the concepts of mental illness versus mental health, describes the burden of mental illness, discusses diagnosis of prominent mental illnesses and their prevention, and addresses racial and ethnic disparities. Students also complete an experiential exercise to give them a perspective on what it is like to have a mental illness.

#### **BSHE 586 (2) Prevention of Mental and Behavioral Disorder**

This course explores what prevention and promotion mean for mental disorders and mental health. It critically examines multilevel approaches for primary, secondary, and tertiary prevention of mental and substance use disorders.

#### **BSHE 587 (2) Substance Abuse**

Introduces the study of substance abuse including current research methodologies, epidemiology, and the impact of substance use and abuse on both the individual and the community.

#### **BSHE 588 (3) Addiction and Behavior**

This seminar explores the construction, meaning, and impact of addiction and addictive behaviors from a multidisciplinary perspective. Particular attention will be given to the putative neurobiological mechanisms associated with addiction and consciousness altering substances and behaviors. The seminar is designed to enable student collaboration across disciplines and stages of education.

#### **BSHE 589 (3) Mental Illness, Public Health, and American Culture in Interdisciplinary Perspective.**

This seminar explores the construction and origin of mental illnesses, including schizophrenia, depression, post-traumatic stress disorder, multiple personality disorder, eating disorders, attention deficit, Tourette syndrome, and addiction. All these syndromes will also be viewed in the context of an increasing public health concern with mental health and mental illness. Attention will be paid to the putative neurobiological and psychiatric mechanisms associated with these disorders.

#### **BSHE 590 (4) Capstone Seminar**

The Capstone seminars provide students with knowledge and skills about the behavioral and social sciences in public health as they are applied to health disparities. Students critically examine the concepts, theories, and methods applied to study a health outcome of interest and evaluate related interventions. Students undertake an independent project that will result in a final 30-50 page paper and an oral presentation.

#### **BSHE 591M / EH 580 (2) Injury Prevention and Control**

This course provides a basic introduction to injury as a public health problem. Students learn about key injury prevention and control concepts, as well as the epidemiology, prevention, and treatment of various causes of intentional and unintentional injury. This class features content experts from CDC and other local agencies.

**BSHE 591W (1) Thesis Mentorship**

This course introduces the thesis as a unique scholarly contribution to public health research, practice, and instruction. Organized as a directed study with the thesis chair, the course provides students with the knowledge and skills to develop and refine research questions, conduct a review and analysis of the public health knowledge base, select a theory or organizing framework, formulate a plan for data collection and an IRB application, and draft the initial three chapters of their project

**BSHE 592 / HPM 592 (2) Case Studies in Public Mental Health**

This course is the core course for the Certificate in Mental Health. Offered each spring, any current first year student enrolled in the MPH or MSPH program at RSPH that plans to pursue the Certificate in Mental Health must enroll in BSHE 592/HPM 592. Participating certificate students will be identified based on their enrollment in this course.

**BSHE 595 (0) Practicum**

Enables students to use skills and knowledge in an applied setting through a supervised field training experience in a public health setting that complements the student's interests and career goals..

**BSHE 597R (VC) Directed Study**

Provides the opportunity to pursue a specialized course of study in an area of special interest. Complements rather than replaces or substitutes course work.

**BSHE 598R (VC) Special Projects**

Provides an opportunity to participate at an advanced level in specific scholarly research and developmental projects.

**BSHE 599R (3) Thesis**

Enables students to apply the principles and methods learned in an academic setting through the preparation of a monograph embodying original research applicable to public health, incorporating a proposition that has been successfully evaluated with appropriate statistical techniques and is potentially publishable or has potential public health impact.

**BSHE 701 (1) Translational and Interdisciplinary Public Health Research**

This course will enable students from all doctoral programs in the public health sciences to describe how research in the fields of public health (epidemiology, biostatistics, environmental sciences, health services research and health policy, and behavioral sciences and health education) have been translated into public health practice, clarify terminology differences across the disciplines, summarize principles of community engaged research, and analyze ethical complexities of conducting community-engaged research. This course is graded on a satisfactory/ unsatisfactory basis.

**BSHE 710 (2) Approaches to the Science of Health Promotion**

This course is designed to provide doctoral students with (a) a solid understanding of both qualitative and quantitative research designs that are commonly used for the implementation of descriptive (describing behavioral phenomena with an investigatory focus), relational (description of the relationships between two or more variables), and experimental (to facilitate causal assertions) research studies; and (b) an appreciation of the breadth and depth of research being conducted in BSHE. It provides students with the fundamental language, concepts, and constructs associated with the scientific approach as well as instruction in the design and implementation of health behavior research studies.

**BSHE 712 (2) Grant Writing**

This course provides an overview of two discrete, but related topic areas, critical for advanced standing students whose interest lies in prevention research. First, this course provides students with basic knowledge about the grant application process, the criteria of how grants are reviewed at NIH, the art and science of "grantsmanship", the essential elements needed for preparing an NIH application, and how to "put the pieces together" to create a clear, cogent and compelling application. Second, this course will address ethics in prevention research, with a particular emphasis on behavioral research. Students will become familiar with the ethics, principles and the regulations applicable to prevention research.

**BSHE 714 (1) Proposal Development I**

The Professional Seminar will focus on the development of the student's own research interests that are expected to lead to the development of a grant proposal that will also be used to partially fulfill doctoral requirements via a dissertation proposal. Each student will present the current status of their research and lead a critical discussion based on their work. The student presentation and critical discussion are intended to support further development of the specific aims, significance, methods, and data analytic aspects of the proposal.

**BSHE 715 (2) Proposal Development II**

The Professional Seminar will focus on the development of the student's own research interests that are expected to lead to the development of a grant proposal that will also be used to partially fulfill doctoral requirements via a dissertation proposal. Each student will present the current status of their research and lead a critical discussion based on their work every other week of the semester. Students are expected to prepare drafts of their proposals and distribute them to the instructor and fellow-students three-days prior to class meetings. Fellow students and the instructor are responsible for reading and providing critiques of the proposals. This iterative process of proposal draft submission and feedback based on critiques continues for the semester, culminating in a final paper. The student presentation and critical discussion are intended to support further development of the background, methods, and data analytic aspects of the proposal. This seminar continues work begun by students during the Proposal Development I seminar.

**BSHE 721 (3) Applying Theory to Public Health Research and Practice**

This course provides the student with advanced knowledge of the foundational theories and is designed to provide an understanding of multilevel theories, including societal level influences, social structures and institutions, community contexts and processes, sociocultural factors, interpersonal relationships, and individual attitudes and beliefs, as well as theories related to organizational change, implementation and dissemination. Content includes an examination of social and behavioral theories and approaches that presently shape our understanding of health and health behavior and that inform our intervention strategies from a socio-ecologic perspective.

**BSHE 725 (3) Health Promotion Interventions**

The purpose of this course is to provide doctoral students with a deep understanding of the conceptual frameworks, values, and assumptions underlying a range of intervention strategies for solving public health problems. The course will also examine intervention design, implementation, and evaluation across various levels of social ecology.

**BSHE 728 (3) Advanced Research Design and Analysis**

The general purpose of this doctoral level course is to introduce advanced topics in research design and statistical analysis. Specifically the course will: 1) provide the students with an understanding of current research methodology including a review of basic research design, sampling, data collection, analysis, and aspects of measurement. 2) familiarize students with advanced statistical techniques and provide students with a “working” knowledge of analytic techniques as they are applied in a prevention sciences research setting. 3) develop the student’s ability to evaluate his or her own research as well as research conducted by others. 4) provide students with a forum to discuss the research design and statistical analysis aspects of their own research proposals (or dissertation).

**BSHE 730 (2) Hierarchical Linear Modeling**

This course is designed to provide doctoral students with theoretical and applied knowledge of hierarchical linear modeling (HLM). Foundational knowledge of HLM is taught by extending knowledge of regression analysis to designs involving a nested data structure. The course covers both cross-sectional and longitudinal data structures. Furthermore, advanced topics such as HLM for ordinal outcome variables and dyadic data will be presented.

**BSHE 732 (2) Structural Equation Modeling**

This course is designed to provide doctoral students with theoretical and applied knowledge of structural equation modeling (SEM). Foundational knowledge of SEM is taught by extending knowledge of regression analysis and mediation analysis to designs involving more than 3 variables. Analyses for measured and latent variable path models will be covered. This course also includes instruction in programming in and interpretation of the output for computer software for conducting SEM. Beyond the basics, advanced topics such as SEM for clustered (i.e. multilevel) data and latent transition analysis will be discussed.

**BSHE 760R (1) Professional Development Seminar**

This seminar will address a variety of topics of importance to the professional behavioral scientist in public health.

**BSHE 797R (VC) Directed Study**

Provides in-depth exposure to an advanced special topic not covered in regular courses.

**BSHE 798R (VC) Research Hours**

Directed student-driven research and writing.

**BSHE 799R (VC) Dissertation Research**

Directed doctoral dissertation research and writing (for post-candidacy students only).

## Department of Biostatistics and Bioinformatics

<http://www.sph.emory.edu/departments/bios/index.html>

Lance A. Waller, Chair

Biostatistics is the science that applies statistical theory and methods to the solution of problems in the biological sciences. The biostatistician differs from the traditional statistician in that he or she is confronted by a wider range of problems dealing with all the phenomena that affect people’s physical, social, and mental well-being. Thus the biostatistician works closely not only with biological researchers but also with epidemiologists, survey researchers, local community planners, state and national health policy analysts, and government officials. At present, there is considerable demand for biostatisticians in research institutes, government agencies, and industry.

Public Health Informatics is the science underlying the integration of computer science, information science, and public health science applied to the acquisition, management, processing, analysis, and synthesis of public health data, information, and knowledge supporting public health research, education, and practice. Public health informaticians work closely with computer and information scientists as well as public health scientists to introduce new technology and systems to enhance public health activities. There is similarly considerable demand by federal, state, and local public health agencies as well as businesses in the health care industry for individuals with knowledge and skills in both the public health sciences and computer and information sciences.

Bioinformatics is defined as the field of science in which biology, computer science, biostatistics, and information technology merge to form a single discipline. Bioinformatics more properly refers to the creation and advancement of algorithms, computational and statistical techniques, and theory to solve formal and practical problems arising from the management and analysis of biological data. Bioinformaticians work closely with biologists, mathematicians, clinical researchers, statisticians, and health scientists. Currently there is a tremendous demand in academia, industry, and government for individuals well-trained in the field of bioinformatics.

The Department of Biostatistics and Bioinformatics offers the master of science in public health (MSPH) and the master of public health (MPH) degrees in biostatistics, and the MSPH in public health informatics through the RSPH. In addition, the department offers a PhD degree in biostatistics through the Laney Graduate School, including an optional Concentration in Bioinformatics, Imaging, and Genetics (BIG). At present, the faculty in biostatistics has 31 full-time doctoral level scientists and 28 associate and adjunct faculty members. The research activities of the faculty are diverse and include studies of national and international scope. The department has gained attention for work on the mathematical modeling of infectious diseases, including work on smallpox, AIDS, and estimation of vaccine efficacy.

Current research areas include the design, management, and analysis of clinical trials, survival analysis, environmental statistics, statistics of vector-borne and parasitic diseases, mathematical modeling of infectious disease, neuroimaging, metabolomics, bioinformatics, statistical genetics, spatial statistics and geographic information systems,

sample survey design and analysis, discrete multivariate analysis, linear models, categorical data analysis, and statistical computing, as well as statistical issues related to cardiology, ophthalmology, neurology, air pollution epidemiology, Alzheimer's disease, breast cancer epidemiology, reproductive epidemiology, aging, and quality of life. Faculty of the department have collaborated with researchers at the US Centers for Disease Control and Prevention, The Carter Center, the Georgia Department of Human Resources, the Emory School of Medicine, the World Health Organization, and other health-related organizations.

The department coordinates the activities of the Biostatistics Consulting Center, which serves as a resource for advice on the design, conduct, and analysis of studies in the health sciences. Students may get hands-on experience in practical biostatistical problems by working with faculty on real-life consulting problems. Research-oriented students often are employed as graduate research assistants.

Students can enter the department from a variety of academic and professional backgrounds. Some applicants pursue a degree directly after completing undergraduate studies. For others, study is undertaken after completion of medical or public health training or experience. To the extent possible, the curriculum of each student is tailored to his or her background and interests. Students with prior relevant course work may receive academic credit toward their degree program.

## Department Admission Criteria

The Department of Biostatistics and Bioinformatics seeks to train students who are likely to become highly motivated, effective public health professionals. Applicants are selected on the basis of their quantitative skills and their potential to make a contribution to the practice of biostatistics in a public health setting. Admission criteria are: (1) previous studies and grades, especially in quantitative areas such as mathematics, statistics, and computer sciences; (2) Graduate Record Examination (GRE) scores, especially the quantitative and analytic portions; (3) letters of recommendation that allow the evaluation of the applicant's quantitative abilities and background in public health; (4) course work, experience, or interest in health-related subjects; and (5) multivariate calculus (calculus III) and linear algebra, all required for admission to the biostatistics MSPH and MPH programs. Applicants must submit GRE scores unless they have a relevant doctoral degree from the U.S.. Scores should reflect at least the 50th percentile for the verbal and quantitative sections and a 3.5 for the analytical writing section. International applicants from non-English-speaking countries are required to take the Test of English as a Foreign Language (TOEFL).

For information about our program, please contact Melissa Sherrer, MEd, at 404.727.3968 or msherre@emory.edu.

## Which Degree Program Should I Choose?

The degree programs are distinct and it is important to understand which one best fits your needs. The following table details some of the major differences between the programs

	MPH in Biostatistics	MSPH in Biostatistics	MSPH in Public Health Informatics
<b>Program Focus</b>	Applied Biostatistics, general public health applications	Preparation for doctoral programs in biostatistics, clinical and biomedical statistics, including public health	Informatics applied to Public Health
<b>Credits Required</b>	42	48	48
<b>Elective Credits</b>	2	5	8
<b>Thesis Required?</b>	Yes	Yes	No, capstone experience
<b>Cohort Size</b>	5-10	15-20	5-10
<b>Sample Key Skills</b>	Study design, data management data, analysis, survey analysis, in public health	Study design, data analysis, statistical theory in biomedical research (including public health)	Database design, geographic information systems, project planning and implementation
<b>Sample Career Path</b>	Public health agency, local health department, public health-based NGO, medical school, doctoral study in public health discipline (e.g., epidemiology, environmental health, global health)	Pharmaceutical company, clinical research organization, public health agency, doctoral study in Statistics or Biostatistics	Public health agency, local health department, global health organization.

## Program Requirements for the MSPH Degree in Biostatistics

The MSPH program in biostatistics is typically completed in four semesters. The objective of this program is to train students for careers as biostatisticians in government and private health agencies, industry, and research institutes. The MSPH program also may serve as preparation for a doctoral program in biostatistics.

### Required Courses for the MSPH Degree in Biostatistics

Course Number	Course Title	Credit Hours
BSHE 500	Behavioral and Social Sciences in Public Health	2
BIOS 506	Biostatistical Methods I	4
BIOS 507	Applied Linear Models	4
BIOS 508	Introduction to Categorical Data Analysis	2
BIOS 512	Probability Theory I	4
BIOS 511	Statistical Inference I	4
BIOS 522	Survival Analysis Method	2
BIOS 526	Modern Regression Analysis	3
BIOS 531	SAS Programming	2
EH 500	Perspectives in Environmental Health	2
EPI 530	Epidemiological Methods I	4
HPM 500	Introduction to the US Health Care System	2
GH 500	Critical Issues in Global Health	2
	Electives (see below)	5
BIOS 595R	Practicum	0
BIOS 599R	Thesis	6

**Electives:** A student must take five credit hours of elective courses, of which at least two hours must be in biostatistics. The total number of credit hours required for the MSPH degree is forty-eight. To receive the MSPH degree, the student must pass all the required, core, and elective courses, maintain a cumulative GPA of at least B-, complete a practicum, and submit an acceptable MSPH thesis.

### Program Requirements for the MPH Degree in Biostatistics

The MPH program in biostatistics is typically completed in four semesters. The MPH degree is a broad-based credential in all areas of public health. Required course work include not only biostatistics and epidemiology, but also health policy, management, environmental health, and social behavior. The MPH degree in biostatistics is usually a terminal degree, with graduates becoming involved in the design and analysis of studies in a variety of practical settings in public health.

### Required Courses for the MPH Degree in Biostatistics

Course Number	Course Title	Credit Hours
BSHE 500	Behavioral and Social Sciences in Public Health	2
EH 500	Perspectives in Environmental Health	2
HPM 500	Introduction to the US Health Care System	2
GH 500	Critical Issues in Global Health	2
EPI 530	Epidemiological Methods I	4
BIOS 506	Biostatistical Methods I	4
BIOS 507	Applied Linear Models	4
BIOS 508	Introduction to Categorical Data Analysis	2
BIOS 510	Introduction to Probability Theory	4

BIOS 522	Survival Analysis	2
BIOS 531	SAS Programming	2
BIOS 511	Statistical Inference I	4
BIOS 595R	Practicum	0
BIOS 599R	Thesis	6
	Electives	2

The total number of required credit hours is forty-two. To receive the MPH degree, the student must pass all the required, core, and elective courses, maintain a cumulative GPA of at least a B-, complete a practicum, and submit an acceptable MPH thesis.

### Program Requirements for the MSPH degree in Public Health Informatics

Public health decision making requires sound quantitative data to support deployment of resources for massive prevention and intervention campaigns and related health surveillance activities. Along with an explosive growth in public health data collection activities in the last two to three decades, the need for trained professionals in public health information sciences (public health informatics) has grown. Public health informaticians bridge the widening gap between the technical expertise of the computer scientist and that of the public health scientist, each working in a highly complex and dynamic environment. This program is designed to provide knowledge of techniques used to manage information in the public health sciences. Graduates of this program will possess the knowledge and skills necessary to introduce new technology and distribute information systems to support public health decision making.

Public health informatics draws from the disciplines of computer science, information science, and public health science to support the activities involved in the management and processing of public health data, information, and knowledge in effective public health practice. Public health informatics requires expertise in a variety of areas, including information retrieval, expert systems, networking, public health science, and education. The goal of public health informatics is to accomplish the information-processing tasks of public health practice, education, and research by bringing information science and technology tools to support these tasks.

The objective of this degree program is to prepare students in the principles and skills necessary to use technology effectively to access, organize, create, synthesize and distribute computer based information related to public health. Students will learn techniques to enable them to integrate a variety of heterogeneous public health information systems and databases. Students also will learn how to break down the barriers that prevent sharing and dissemination of protected health information. Graduates of this program will have the skills and abilities to analyze how public health information is acquired, organized, and used. They will possess the knowledge and skills necessary to introduce new technology and distribute information systems to support public health decision-making. The curriculum follows directly from a strategic vision of graduates of the program as those who will be able to conceive of, develop, and manage new systems and applications of technology that address public health priorities. It will provide students with an understanding of the basic terminologies in public health as well as a deeper understanding of the issues arising

in population-level disease surveillance and health outcomes, two areas unique to public health that are also its most data-intensive, as well as a firm foundation in geographic information systems, advanced database management systems, and analytics as these areas relate to public health.

### Department Admission Criteria for MSPH in Public Health Informatics

Students should have strong quantitative and computational background as evidenced by good scores on the mathematical and analytical sections of the Graduate Record Exam, as well as their undergraduate (and any graduate) course work. In particular, they should have GRE scores in the 70th percentile or higher on all three exams. Applicants should have a background and/or interest in the health or biomedical sciences. Students must have computational competencies gained from introductory classes in database management systems, which they can gain either through prior course work or through experience. Prior course work in numerical analysis and calculus are desirable. International applicants from non-English speaking countries are required to take the Test of English as a Foreign Language (TOEFL).

### Degree Requirements for the MSPH in Public Health Informatics

Students typically complete this program in four semesters.

Course Number	Course Title	Credit Hours
<b>BSHE 500</b>	Behavioral and Social Sciences in Public Health	2
<b>EH 500</b>	Perspectives in Environmental Health	2
<b>HPM 500</b>	Introduction to the U.S. Health Care System	2
<b>GH 500</b>	Critical Issues in Global Health	2
<b>EPI 530</b>	Epidemiological Methods I	4
<b>BIOS 500</b>	Statistical Methods I	4
<i>or, for the adequately prepared student:</i>		
<b>BIOS 506</b>	Biostatistical Methods I	4
<b>INFO 500</b>	Principles of Public Health Informatics I	2
<b>INFO 501</b>	Principles of Public Health Informatics II	2
<b>INFO 503</b>	Management Principles for Informatics	2
<b>INFO 511</b>	Analytics	3
<b>INFO 521</b>	Database Development for Public Health	3
<b>INFO 532</b>	Principles of Geographic Information Systems	4
<b>INFO 540</b>	Informatics and Analytics for Public Health Surveillance	2
<b>INFO 550</b>	Software Engineering	2
<b>INFO 595R</b>	Practicum	0
<b>INFO 598R</b>	Capstone	4
	Electives	8

The total number of required credit hours is forty-eight. To receive the MSPH degree, the student must pass all of the required, core, and elective courses, maintain a cumulative GPA of at least B-, complete a practicum, and submit a capstone project.

### Admission Requirements for the PhD Degree

To be admitted into the PhD program in biostatistics, a student must complete all the admission requirements specified by the Laney Graduate School. Requirements for admission include a baccalaureate degree from an accredited four-year college, an overall academic average of B or better, and satisfactory scores on the Graduate Record Examination (GRE) that includes the verbal, quantitative, and analytical sections. Evidence of command of the English language, as indicated by TOEFL scores, is required for international applicants whose native language is not English.

Students enter from a variety of academic and professional backgrounds. Course work in college-level advanced calculus (multivariate calculus) and linear algebra is required for admission, and additional course work in real analysis is preferred. No previous background in statistics is required. Those with a statistics background, however, may receive academic credit toward their PhD degree program. Students may elect to receive an MS degree after successfully obtaining PhD candidacy. For doctoral students, the Department offers a Concentration in Bioinformatics, Imaging, and Genetics (BIG). Please see the Biostatistics website (<http://www.sph.emory.edu/departments/bios/degree-programs/phd/index.html>) for complete degree requirements.

The Department of Biostatistics and Bioinformatics has a predoctoral and postdoctoral training program in environmental biostatistics. The focus here is on the interaction between statistical analysis and complex environmental data, for example statistical methods for environmental policy (e.g., pertaining to setting and enforcing standards for priority pollutants, quantitative risk assessment, and assessments of environmental justice concerned with differential impacts of environmental exposures across sociodemographic groups); and statistical methods in quantitative disease ecology (e.g., quantifying environmental impacts on vector-borne diseases and zoonoses such as rabies and Lyme disease, including investigations of the phylogeography or spatial patterns of particular genetic strains of such diseases). The training program examines such issues through coursework and a “research rotation” for trainees. The program involves faculty from the following academic disciplines: biostatistics, environmental health, epidemiology, and biology.

### Financial Assistance for the Biostatistics PhD Program

Graduate student support for the PhD program is available in the form of tuition scholarships and stipends. These awards are offered at the time of admission to applicants with excellent quantitative skills and genuine interest in biostatistics. Awards may be renewed for up to four additional years of support, depending upon satisfactory academic progress and available funds.

## Faculty

**Jose Binongo**, Research Associate Professor. PhD, University of Ulster (UK), 2000. Collaborative biostatistics, statistics education.

**Donna J. Brogan**, Emerita Professor. BA, Gettysburg College, 1960; MS, Purdue University, 1962; PhD, Iowa State University, 1967. Sample survey design and analysis, breast cancer epidemiology, women's health.

**Howard Chang**, Assistant Professor. BS, University of British Columbia, 2004; PhD, Johns Hopkins University, 2009. Environmental epidemiology, Bayesian methods, spatial and spatial-temporal statistics.

**Zhengjia Nelson Chen**, Research Associate Professor. BS, Peking University, 1995; MS, 1998; MS, University of Southern California, 2001; PhD, 2008.

**Julie Clennon**, Instructor. MSc, University of Illinois at Urbana-Champaign, 2001; PhD, 2006. Spatial Analysis/GIS, disease surveillance, global health, infectious disease, safe water and sanitation.

**George Cotsonis**, Senior Associate. MA, University of West Florida, 1978. Statistical computing, consulting.

**Kirk A. Easley**, Senior Associate. Associate Director, Biostatistical Consulting Center. MS, Louisiana State University, 1981. Statistical consulting.

**Lisa K. Elon**, Senior Associate. BS, Virginia Tech, 1978; MS, North Carolina State University, 1983; MPH, Emory University, 1997. Sample survey analysis, longitudinal cohort study.

**Ying Guo**, Associate Professor. BS, Renmin University, 1998; MS, 2001; PhD, Emory University, 2004. Multivariate survival data with focus on developing new statistical methods to characterize and model agreement among survival times, statistical imaging.

**Michael J. Haber**, Professor. BSc, Hebrew University (Jerusalem), 1965; MSc, 1968; PhD, 1976. Categorical data analysis, statistical methods for infectious diseases data, evaluation of vaccine effects.

**John J. Hanfelt**, Professor. AB, Harvard University, 1984; MS, George Washington University, 1988; PhD, Johns Hopkins University, 1994. Longitudinal data analysis, genetic epidemiology, estimating functions, approximate likelihood.

**Yijuan Hu**, Rollins Assistant Professor. BS, Peking University, 2005; PhD, University of North Carolina at Chapel Hill, 2011. Statistical genetics, missing data, semiparametric inference.

**Yijian (Eugene) Huang**, Professor. BS, Zhejiang University, 1990; MS, University of Minnesota, 1994; PhD, 1997. Survival analysis, covariate measurement error, semi and nonparametric inferences.

**Mary Kelley**, Research Associate Professor. BS, University of Pittsburgh, 1988; MS, 1995; PhD, 2004. Mental illness research, health outcomes research, schizophrenia research.

**Yi-An Ko**, Research Assistant Professor. BS, National Taiwan University, 2004; MS, University of Southern California, 2007; MS, University of Michigan, 2009; PhD, 2014. Statistical Modeling, Cardiovascular Diseases, Biomarkers, Genetic Epidemiology.

**Jeanne Kowalski**, Associate Professor. BA, Chatham College, 1990; MA, University of Pittsburgh, 1996; PhD, 1998. Cancer biostatistics and clinical trials.

**Suprateek Kundu**, Assistant Professor, BSc, Calcutta University, 2006; MStat, Indian Statistical Institute, 2008; PhD, University of North Carolina at Chapel Hill, 2012. Bayesian networks, high dimensional data, imaging analysis.

**Michael H. Kutner**, Professor. BS, Central Connecticut State College, 1960; MS, Virginia Polytechnic Institute and State University, 1962; PhD, Texas A&M University, 1971. Linear models, variance components, experimental design, clinical trials.

**Traci Leong**, Research Assistant Professor. BS, University of California Davis, 1990; MS, Stanford University, 1991; MS, Emory University, 2004; PhD, 2005. Statistical methods for clinical trials, statistical consulting, pediatric research.

**Yuan Liu**, Research Assistant Professor. MS, University of North Carolina, 2004; PhD, 2008.

**Robert H. Lyles**, Professor. BS, Vanderbilt University, 1988; MS, University of North Carolina-Chapel Hill, 1991; PhD, 1996. Longitudinal data analysis, prediction of random effects, measurement error models, missing data.

**Amita K. Manatunga**, Professor. BSc, University of Colombo, 1978; MSc, Purdue University, 1984; PhD, University of Rochester, 1990. Multivariate survival analysis, frailty models, longitudinal data.

**Christina Mehta**, Research Assistant Professor. BS, Emory University, 2000; MSPH, 2004; PhD, 2014. Women's Interagency HIV Study, biostatistics.

**Renee H. Moore**, Research Associate Professor. BS, Bennett College, 1999; MS, Emory University, 2005; PhD, Emory University, 2006. Statistical consulting, childhood obesity.

**Azhar Nizam**, Senior Associate. BA, Grinnell College, 1985; MS, University of South Carolina, 1987. Multiple comparisons, statistical education.

**Limin Peng**, Associate Professor. BS, University of Science and Technology of China, 1997; MS, 2000; PhD, University of Wisconsin, 2005. Survival analysis, empirical processes, causal inference, Bayesian statistics, bioinformatics.

**Zhaohui S. Qin**, Associate Professor. BS, Peking University, 1994; PhD, University of Michigan, 2000. High-throughput genomics analysis.

**Sandra Safro**, Research Assistant Professor. BA, University of Ghana, 2006; MS, University of Akron, 2009; PhD, University of Georgia, 2014.

**Jeffery Switchenko**, Research Assistant Professor. BA, Bowdoin College-Brunswick, 2006; PhD, Emory University, 2012. Cancer, spatial analysis, bayesian.

**Lance A. Waller**, Rollins Professor and Chair. BS, New Mexico State University, 1986; MS, Cornell University, 1990; PhD, 1992. Spatial statistics, environmental epidemiology, geographic information systems, Bayesian methods.

**Laura Ward**, Associate. BSPH, University of North Carolina, Chapel Hill, 2007; MSPH, Emory University, 2009. Collaborative biostatistics, study design, data management.

**Paul S. Weiss**, Senior Associate. BS, University of Michigan, 1993; MS, 1996. Survey sampling design, research methodologies, statistical computing.

**Hao Wu**, Associate Professor. BS, Tsinghua University, 1996; MS, Iowa State University, 2000; MPH/PhD, Johns Hopkins University, 2010. Quantitative genetics and genomics analysis.

**Tianwei Yu**, Associate Professor. BS, Tsinghua University, 1997; MS, 2000; MS, University of California, 2004; PhD, 2005. Expression array/SNP array analysis.

**Hong Rebecca Zhang**, Senior Associate. BS, Fudan University, 1985; MS, Florida State University, 1990. Data management, statistical analysis.

## Jointly Appointed Faculty

**Karen Conneely**, Assistant Professor. BS University of Illinois, 1994; MA, Princeton University, 1997; PhD, University of Michigan, 2008.

**Michael P. Epstein**, Assistant Professor. BS, Duke University, 1996; MS, University of Michigan, 1998; PhD, 2002. Emory University Department of Human Genetics.

**W. Dana Flanders**, Professor. MS, University of Vermont, 1972; MA, Columbia University, 1974; MD, University of Vermont, 1977; MPH, Harvard University, 1979; DSc, 1982. Department of Epidemiology.

**Vicki Stover Hertzberg**, Associate Professor. BS, Miami University, 1976; PhD, University of Washington, 1980. Categorical data analysis, clinical trials, reproductive epidemiology, statistical genetics.

## Adjunct Faculty

**Huiman X. Barnhart**, Adjunct Associate Professor. BS, South China Normal University, 1983; MS, Jinan University, 1986; MA, University of Pittsburgh, 1988; PhD, 1992. Duke University.

**Joseph Bauer**, Adjunct Associate Professor BA, State University of New York 1981; MA, 1984; PhD, 1992. American Cancer Society.

**F. DuBois Bowman**, Adjunct Professor. BS, Morehouse College, 1992; MS, University of Michigan, 1995; PhD, University of North Carolina at Chapel Hill, 2000. Addiction/substance abuse, bioinformatics, mental health, statistical modeling.

**John Carew**, Adjunct Assistant Professor. PhD, University of Wisconsin-Madison, 2006. R. Stuart Dickson Institute for Health Studies.

**Carol A. Gotway Crawford**, Adjunct Associate Professor. BS, Bradley University, 1984; MS Iowa State University, 1986; PhD, 1989. US Centers for Disease Control and Prevention.

**Andrew N. Hill**, Adjunct Lecturer. BS, University of Auckland (New Zealand), 1986; MS, 1987; PhD, University of Canterbury (New Zealand). US Centers for Disease Control and Prevention.

**Brent Johnson**, Adjunct Associate Professor. PhD, North Carolina State University, 2003. Clinical trials, HIV/AIDS, regression models.

**James L. Kepner**, Adjunct Professor, BS, Illinois State University, 1973; MS, University of Iowa, 1976; PhD, 1979. American Cancer Society.

**Patrick Kilgo**, Adjunct Instructor. MS, University of Georgia, 1994. Cardiology, statistical computing, research methodologies.

**Andrzej S. Kosinski**, Adjunct Associate Professor. MS, AGH (Krakow), 1983; MSc, Oxford University, 1984; PhD, University of Washington, 1984. Duke University.

**Barbara Massoudi**, Adjunct Assistant Professor, MPH, University of Pittsburgh, 1990; PhD, 1994. RTI International.

**Kenneth Portier**, Adjunct Professor, BS, Nicholls State University, 1973; MS, University of North Carolina at Chapel Hill, 1976; PhD, 1979. American Cancer Society.

**Philip H. Rhodes**, Adjunct Assistant Professor. BA, Northwestern University, 1975; MS, University of Washington, 1983; PhD, Emory University, 1992. US Centers for Disease Control and Prevention.

**Glen A. Satten**, Adjunct Professor. BA, Oberlin College, 1979; MA, Harvard University, 1981; PhD, 1985. US Centers for Disease Control and Prevention.

**Maya Sternberg**, Adjunct Assistant Professor. BS, Carnegie Mellon University, 1989; MS, Emory University, 1996. US Centers for Disease Control and Prevention.

**G. David Williamson**, Adjunct Associate Professor. BS, Georgia Institute of Technology, 1973; MS, Georgia Southern College, 1978; MS, Virginia Polytechnic Institute and State University, 1980; PhD, Emory University, 1987. Agency for Toxic Substances and Disease Registry.

**Brani Vidakovic**, Professor. BS, University of Belgrade, 1978; MS, 1981; PhD, Purdue University, 1992. Department of Biomedical Engineering.

**Ming Yuan**, Adjunct Assistant Professor, BS, University of Science and Technology of China, 1997; MS, 2000; MS, University of Wisconsin, 2003; PhD, 2004. Georgia Institute of Technology.

## Biostatistics Course Descriptions

### BIOS 500 (3) Statistical Methods I

Fall. Prerequisite: Algebra. Introduces parametric and nonparametric statistical methodology, including descriptive measures, elementary probability, estimation, hypothesis testing, confidence intervals, common nonparametric methods, and base contingency table analysis. Empirically demonstrates underlying theory. (This course is for informatics and non-bios major students. If does not fulfill any requirements for a biostatistics major student.)

### BIOS 500 Lab (1)

Fall. Prerequisites: Concurrent enrollment in BIOS 500. This lab complements the Bios 500 courses by using hands-on demonstrations of statistical concepts and methods taught in lecture. The statistical software, SAS, will be introduced as a programming tools to accomplish many of these tasks.

### BIOS 501 (3) Statistical Methods II

Spring. Prerequisite: BIOS 500 or equivalent. Addresses estimation and hypothesis testing within the context of the general linear model. Examines in depth the analysis of variance, multiple regression, and logistic regression. Previews select advanced techniques. (The course does not fulfill core or elective requirements for biostatistics students.)

### BIOS 501 Lab (1)

Spring. Prerequisites: BIOS 500 and BIOS 500 Lab, and concurrent enrollment in BIOS 501. A continuation of the BIOS 500 Lab. Students learn SAS programming for the statistical methods covered in BIOS 501.



**BIOS 502 (2) Statistical Methods III**

Fall. Prerequisites: BIOS 500 and BIOS 501. This course introduces students to data analytic methods not covered in BIOS 500 and BIOS 501. It is focused on multilevel models, particularly modeling longitudinal data. Other hierarchical models will also be introduced to analyze other types of clustered data. Students will learn how to specify an appropriate statistical model so that specific research questions of interest can be addressed in a methodologically sound way.

**BIOS 505 (4) Statistics for Experimental Biology**

Spring. Intended for PhD candidates in the biological and biomedical sciences. Introduces the most frequently used statistical methods in those fields, including linear regression, ANOVA, logistic regression, and nonparametric methods. Students learn the statistical skills necessary to read scientific articles in their fields, do simple analyses on their own, and be good consumers of expert statistical advice.

**BIOS 506 (4) Biostatistical Methods I**

Fall. Prerequisite: matrix algebra. For biostatistics majors. Focuses on mathematically sophisticated presentations of principles and methods of data description; exploratory data analysis; graphics; point and confidence interval estimation; hypothesis testing; relative risk; odds ratio; Mantel-Haenszel test, chi-square tests, simple linear regression; correlation; and one and two sample parametric and nonparametric tests. Draws examples from biomedical literature. Real data set analysis is done, using statistical computer packages.

**BIOS 507 (4) Applied Linear Models**

Spring. Prerequisites: Biostatistics major, BIOS 506 or equivalent; one year of calculus, linear algebra, and matrix algebra. Provides sound statistical methods for the analyses of continuous data from observational studies and designed experiments. The analyses methods include multiple linear regression with model building (selection of predictor variables, diagnostics, residual analysis, collinearity, and simultaneous inferences); one-way, two-way, and multifactor analysis of variance (both balanced and unbalanced studies); analysis of covariance; fixed effect, random effect, and mixed effect models; mathematically sophisticated introduction to linear models in matrix form. Study designs include sample size planning, randomized block designs, nested designs, repeated measures designs, split-plot designs, and Latin squares designs. Discusses design-related analysis issues. Demonstrates appropriate programs such as SAS and S-Plus.

**BIOS 508 (2) Introduction to Categorical Data Analysis**

Fall. Prerequisites: BIOS 506. This course will introduce the students to categorical data analysis. It will cover topics such as distributions, goodness of fit, contingency tables (traditional approach), logistic models for contingency tables, logistic regression, logistic models for multi- category data, poison regression, and matched paired data.

**BIOS 510 (4) Introduction to Probability Theory I**

Fall. Prerequisite: calculus and multivariate analysis. Focuses on axiomatic probability, random variables, distribution theory, special parametric families of univariate distributions, joint and conditional distributions, distributions of functions of random variables, and probability modeling.

**BIOS 511 (4) Statistical Inference I**

Spring. Prerequisite: BIOS 510. Focuses on sampling distributions, parametric point and interval estimation, tests of hypotheses, decisions theory, and Bayesian inference.

**BIOS 512 (4) Probability Theory I**

Fall. Prerequisite: Calculus and multivariate analysis. Introduction to probability, random variables, distributions, conditional distributions, expectations, moment generating functions, and convergence concepts.

**BIOS 516 (1) Introduction to Large-Scale Biomedical Data Analysis**

Fall. Prerequisite: BIOS 501 or equivalent, or permission from the instructor. This is the overview course for the Bioinformatics, Imaging and Genetics (BIG) concentration in the PhD program of the Department of Biostatistics and Bioinformatics. It aims to introduce students to modern high-dimensional biomedical data, including data in bioinformatics and computational biology, biomedical imaging, and statistical genetics. This course will be co-taught by all BIG core faculty members, with each faculty member giving one or two lectures. The focus of the course will be on the data characteristics, opportunities and challenges for statisticians, as well as current developments and hot areas of the research fields of bioinformatics, biomedical imaging and statistical genetics.

**BIOS 520 (2) Clinical Trials Methodology**

Spring. Prerequisite: BIOS 500 or BIOS 506. Covers the organization, methodology, and reporting results of clinical trials. Topics covered include conceptualization, data collection, ethical considerations, and protocol adherence and compliance, as well as statistical techniques such as randomization, double-blind techniques, sample size determination, and analysis considerations.

**BIOS 522 (2) Survival Analysis Methods**

Fall. Prerequisites: BIOS 506, BIOS 507, BIOS 510 or BIOS 512. Deals with the modern methods used to analyze time-to-event data. Provides background theory, but emphasis is on using methods and interpreting results. Provides coverage of survivorship functions, Kaplan-Meier curves, logrank test, Cox regression, model-fitting strategies, model interpretation, stratification, time-dependent covariates, and introduction to parametric survival models. Computer programs are used. A data analysis project is required.

**BIOS 524 (2) Introduction to Analytic Methods for Infectious Diseases**

Spring.\* Prerequisites: BIOS 506 and BIOS 510 or equivalent. Introduces dynamic and epidemiological concepts particular to infectious diseases, including elements of the infection process; transmission patterns; epidemic, endemic, micro and macroparasitic diseases; zoonoses; basic reproduction number; dependent happenings; and effects of intervention.

**BIOS 526 (3) Modern Regression Analysis**

Fall. Prerequisites: BIOS 507 or instructor's permission. This course introduces students to modern regression techniques commonly used in analyzing public health data. Topics include: (1) parametric and non-parametric methods for modeling non-linear relationships; (2) methods for modeling longitudinal and multilevel data that account for within group correlation; (3) Bayesian regression modeling; and (4) methods for multivariate outcomes.

**BIOS 531 (2) SAS Programming**

Fall. Prerequisites: BIOS 501 or equivalent, or BIOS 506 (concurrent), OR permission of the instructor. This course offers instruction in basic SAS programming. It assumes no prior knowledge of SAS, and begins with an introduction to the data step and procedure call. Topics

covered include: dataset manipulation, report writing, arrays, looping, simulation, SAS macro, SAS Interactive Matrix Language (IML), SAS Graphics, and SAS Output Delivery System (ODS). The final exam for the course is the Base SAS Certification exam. Students who pass this exam successfully receive a certificate of completion from the SAS Institute.

#### **BIOS 532 (2) Statistical Computing**

Spring. Prerequisite: BIOS 531, BIOS 506, and BIOS 510, or permission of instructor. Programming style and efficiency, data management and data structures, hardware and software, maximum likelihood estimation, matrix methods and least squares, Monte Carlo simulation, pseudo-random number generation, bootstrap, and UNIX-based computing and graphical methods.

#### **BIOS 534 (3) Machine Learning**

Fall & Spring. Prerequisites: BIOS 500 or equivalent, multivariate calculus, linear algebra, or permission of the instructor. This course covers fundamental machine learning theory and techniques. The topics include basic theory, classification methods, model generalization, clustering, and dimension reduction. The material will be conveyed by a series of lectures, homeworks, and projects.

#### **BIOS 540 (2) Introduction to Bioinformatics**

Spring. Prerequisites: BIOS 500, 501, 506, or permission of instructor. This course is an introduction to the field of Bioinformatics for students with a quantitative background. The course covers biological sequence analysis, introductions to genomics, transcriptomics, proteomics and metabolomics, as well as some basic data analysis methods associated with the high-throughput data. In addition, the course introduces concepts such as curse of dimensionality, multiple testing and false discovery rate, and basic concepts of networks.

#### **BIOS 544 (2) Introduction to R (Non-BIOS students only)**

Fall. Prerequisites: BIOS 500 and BIOS 501. The goal of the course is to will provide an introduction to R in organizing, analyzing, and visualizing data. Once you've completed this course you'll be able to enter, save, retrieve, summarize, display and analyze data.

#### **BIOS 545 (2) R Programming for BIOS students**

Spring. Prerequisites: BIOS 506 or equivalent and basic programming experience using a high level language. This course will introduce students to essential concepts of the R programming with example applications in statistical analysis. Topics include understanding language syntax and data types, constructing informative graphics, authoring functions, learning effective debugging strategies, developing reproducible research documents, and creating packages and documentation for distribution.

#### **BIOS 550 (2) Sampling Applications**

Fall. Prerequisite: BIOS 501 or BIOS 506. Focuses on how to select probability samples and analyze the data, using simple random sampling, stratified random sampling, cluster sampling, and multistage sampling. The software package PC-SUDAAN is used for data analysis.

#### **BIOS 555 (2) High-Throughput Data Using R and BioConductor**

Fall. Prerequisites: BIOS 501 or equivalents. Basic programming experience in R. This course covers the basics of microarray and second-generation sequencing data analysis using R/Bio Conductor and other open source software. Topics include gene expression microarray, RNA-

seq, ChIP-seq and general DNA sequence analyses. We will introduce technologies, data characteristics, statistical challenges, existing methods and potential research topics. Students will also learn to use proper Bioconductor packages and other open source software to analyze different types of data and deliver biologically interpretable results.

#### **BIOS 560R (VC) Current Topics in Biostatistics**

Fall and spring. A faculty member offers a new course on a current topic of interest for both PhD and master's students.

#### **BIOS 570 (2) Introduction to Statistical Genetics**

Spring. No prerequisites. This is an introductory course for graduate students in Biostatistics, Bioinformatics, Epidemiology, Genetics, Computational Biology, and other related quantitative disciplines. The course will cover statistical methods for the analysis of family and population based genetic data. Topics covered will include classical linkage analysis, population-based and family-based association analysis, haplotype analysis, genome-wide association studies, basic principles in population genetics, imputation-based analysis, pathway-based analysis, admixture mapping, analysis of copy number variations, and analysis of massively parallel sequencing data. Students will be exposed to the latest statistical methodology and computational tools on gene mapping for complex human diseases.

#### **BIOS 590R (1) Seminar in Biostatistics**

Fall and spring. Features invited speakers, departmental faculty, students, and others who discuss special topics and new research findings. (Satisfactory/unsatisfactory grading only.)

#### **BIOS 591P (2) Biostatistical Methods II (EPI students only)**

Spring. Prerequisites: BIOS 500 and BIOS 500 lab. This course covers statistical methodology for the analysis of continuous outcome data, utilizing standard linear modeling approaches. Methods and topics to be discussed include correlation, simple and multiple linear regression, model diagnostics and selection, interaction, analysis of covariance, and one- and two-way analysis of variance (ANOVA).

#### **BIOS 591P (1) Biostatistical Methods II Lab**

Spring. Prerequisites: BIOS 500 and BIOS 500 lab. By the end of the course students will be able to perform simple and multiple linear regression and ANOVA analyses using SAS software. Students will be able to perform exploratory analyses and model diagnostics, will be able to implement model selection strategies, and will be able to report analysis results using the proper techniques.

#### **BIOS 595R (0) Practicum**

Fall. Enables students to apply skills and knowledge through a supervised field training experience in a public health setting that complements the student's interests and career goals.

#### **BIOS 597R (VC) Directed Study**

Fall and spring. Provides in-depth exposure to specific topics not covered in regular courses, for example, statistical genetics and specialized experimental designs.

#### **BIOS 599R (VC) Thesis**

Fall and spring. Master's thesis research.

**BIOS 707 (4) Advanced Linear Models**

Fall. Prerequisites: BIOS 507, BIOS 511, and a course in matrix algebra. Focuses on generalized inverse of a matrix; vectors of random variables; multivariate normal distribution; distribution theory for quadratic forms of normal random variable; fitting the general linear models by least squares; design matrix of less than full rank; estimation with linear restrictions; estimable functions; hypothesis testing in linear regression; and simultaneous interval estimation.

**BIOS 709 (4) Generalized Linear Models**

Spring. Prerequisites: BIOS 511 and BIOS 707. Studies analysis of data, using generalized linear models as well as models with generalized variance structure. Parametric models include exponential families such as normal, binomial, Poisson, and gamma. Iterative reweighted least squares and quasi-likelihood methods are used for estimation of parameters. Studies methods for examining model assumptions. Introduces generalized estimating equations (GEE) and quadratic estimating equations for problems where no distributional assumptions are made about the errors except for the structure of the first two moments. Illustrations with data from various basic science, medicine, and public health settings.

**BIOS 710 (4) Probability Theory II**

Fall. Prerequisites: BIOS 510 and BIOS 511. Focuses on axioms of probability, univariate and multivariate distributions, convergence of sequences of random variables, Markov chains, random processes, and martingales.

**BIOS 711 (4) Statistical Inference II**

Spring. Prerequisite: BIOS 710. Examines the fundamental role of the likelihood function in statistical inference, ancillary and sufficient statistics, estimating functions, and asymptotic theory. Presents conditional, profile, and other approximate likelihoods; various ancillary concepts; generalizations of Fisher information in the presence of nuisance parameters; optimality results for estimating functions; and consistency /asymptotic normality of maximum likelihood and estimation function-based estimators. Briefly discuss alternative approaches to inference including Bayesian, Likelihood Principle, and decision theory.

**BIOS 722 (2) Advanced Survival Analysis**

Fall or spring.\* Prerequisites: BIOS 510, BIOS 511, and BIOS 706. Provides in-depth coverage of theory and methods of survival analysis, including censoring patterns and theory of competing risks, nonparametric inference, estimating cumulative hazard functions, Nelson estimator, parametric models and likelihood methods, special distributions, two-sample nonparametric tests for censored data,

censored data, time-dependent covariates, stratified Cox model, accelerated failure time regression models, grouped survival analysis, multivariate survival analysis, and frailty models.

**BIOS 723 (4) Stochastic Processes**

Fall or spring. \* Prerequisites: matrix algebra and BIOS 710. Provides dual coverage of the theory and methods for dealing with the diversity of problems involving branching processes, random walks, Poisson processes, birth and death processes, Gibbs sampling, martingale counting processes, hidden Markov chains, inference on semi-Markov chains, and chain of events modeling. Draws applications from the biological sciences, including the

theory of epidemics, genetics, survival analysis, models of birth-migration-death, and the design and analysis of HIV vaccine trials.

**BIOS 724 (2) Analytic Methods for Infectious Disease Interventions**

Spring. \* Prerequisite: BIOS 511. Focuses on advanced analytic, statistical, and epidemiological methods particular to infectious diseases, including analysis of infectious disease data and evaluation of intervention.

**BIOS 726 (2) Applied Multivariate Analysis**

Fall.\* Prerequisites: BIOS 511. Investigates multivariate techniques. Main subjects are inferences about multivariate means, multivariate regression, multivariate analysis of variance (MANOVA) and covariance (MACOVA), principal components, factor analysis, discriminant analysis and classification, and cluster analysis. Demonstrates programs such as SAS and S-Plus.

**BIOS 731 (2) Advanced Statistical Computing**

Fall.\* Prerequisites: BIOS 510, 511 and prior programming experience, or permission from one of the instructors. This course covers the theories and applications of some common statistical computing methods. Topics include Markov chain Monte Carlo (MCMC), hidden Markov model (HMM), Expectation-Maximization (EM) and Minorization-Maximization (MM), and optimization algorithms such as linear and quadratic programming. The class has two main goals for students: (1) learn the general theory and algorithmic procedures of some widely used statistical models; (2) develop fluency in statistical programming skills. The class puts more emphasis on implementation instead of statistical theories. Students will gain computational skills and practical experiences on simulations and statistical modeling.

**BIOS 732 (2) Advanced Numerical Methods**

Fall.\* Prerequisites include BIOS 532, BIOS 710 and BIOS 711, or permission of the instructor. BIOS 711 may be taken concurrently. The course covers topics in traditional numerical analysis specifically relevant to statistical estimation and inference. The topics covered include numerical linear algebra, the root finding problem (maximum likelihood) methods such as IRLS, Newton-Raphson, and EM algorithm, and Bayesian techniques for marginalization and sampling for use in statistical inference (MCMC methods). Additional topics may include numerical integration and curve fitting.

**BIOS 735 (2) Estimating Function Theory**

Fall. Prerequisite: BIOS 711 or permission of instructor. Examines topics in the theory of estimating functions. Applications from biomedical studies are used to illustrate the concepts discussed in class

**BIOS 736 (2) Statistical Analysis with Missing and Miss-measured Data**

Spring.\* Prerequisites: BIOS 511 and knowledge of S-plus. For PhD biostatistics students; others must obtain permission of instructor. Introduces concepts and methods of analysis for missing data. Topics include methods for distinguishing ignorable and nonignorable missing data mechanisms, single and multiple imputation, and hot-deck imputation. Computer-intensive methods are used.

**BIOS 737 (2) Spatial Analysis of Public Health Data**

Spring.\* Prerequisites: BIOS 506, 507, 510, 511. Familiarizes students with statistical methods and underlying theory for the spatial analysis of georeferenced public health

data. Topics covered include kriging and spatial point processes. Includes a review of recent computational advances for applying these methods.

#### **BIOS 738 (2) Bayesian and Empirical Bayes Methods**

Fall.\* Prerequisites: BIOS 510 and BIOS 511. Includes Bayesian approaches to statistical inference, point and interval estimation using Bayesian and empirical Bayesian methods, representation of beliefs, estimation of the prior distribution, robustness to choice of priors, conjugate analysis, reference analysis, comparison with alternative methods of inference, computational approaches, including Laplace approximation, iterative quadrature, importance sampling, and Markov Chain Monte Carlo (Gibbs sampling). Various applications, such as small area estimation, clinical trials, and other biomedical applications, will be used.

#### **BIOS 745R (1) Biostatistical Consulting**

Fall. Prerequisite: BIOS 507. Focuses on the roles, responsibilities, and other issues related to the biostatistician as consultant or collaborator in the biomedical field. Initially focuses on preparing students to act as consultants through discussions of consulting models, interpersonal communication, ethics, common client types, time and financial management, and other issues. Students then collaborate with researchers to develop the design and/or the analysis of quantitative investigations, initially under supervision of a faculty member and later independently. This collaboration is reviewed and critiqued by faculty and students. May be taken more than once for credit, but not as fulfillment of biostatistics elective.

#### **BIOS 760R (VC) Advanced Topics in Biostatistics**

Fall and spring. A faculty member offers a new course on an advanced topic of interest, such as spatial analysis, time series, missing data methods, causal inference, and discrete multivariate analysis.

#### **BIOS 770 (2) Advanced Statistical Genetics**

Spring.\* Prerequisites: BIOS 511, BIOS 570, and BIOS 710, and BIOS 711 or instructor's permission. This course provides a comprehensive survey of the statistical methods that have been recently developed for the designs and analysis of genetic association studies. Specific topics include genome-wide association studies, likelihood inference and EM algorithm, case-control sampling and retrospective likelihood, secondary phenotypes in case-control studies, haplotypes and un-typed SNPs, population stratification, meta-analysis, multiple testing, winner's curse, copy number variants, next-generation sequencing studies, rare variants and trait-dependent sampling.

#### **BIOS 777 (1) How to Teach Biostatistics**

Fall. Prerequisites: BIOS 507, BIOS 511, and summer TATTO workshop. Prepares students for teaching introductory level courses in biostatistics. The topics discussed are: syllabus development, lecturing, encouraging and managing class discussion, evaluating student performance, test and examinations, cheating, the role of the teaching assistant, teacher-student relationships, teaching students with weak quantitative skills, teaching students with diverse backgrounds, teaching health sciences students, teaching medical students, use of audio-visual techniques, and use of computers. Each student is required to teach a certain subject to the other students and the instructor, followed by a discussion of presentation strengths and weaknesses.

#### **BIOS 780R (1) Advanced PhD Seminar**

Spring. Prerequisite: BIOS 511. Acquaints students with a variety of areas of biostatistical research and provides the chance to do preliminary reading in an area of interest. Each student reads a few papers in an area of interest, and presents the material to the group. Topics and readings can be suggested by the faculty member in charge or by the students. This course may be repeated for credit. (Satisfactory/unsatisfactory grading only.)

#### **BIOS 790R (1) Advanced Seminar in Biostatistics**

Fall and spring. Invited speakers, faculty, and advanced students discuss special topics and new research findings. (Satisfactory/unsatisfactory grading only.)

#### **BIOS 795R (VC) Candidacy Research**

Fall and spring. Provides in-depth exposure to advanced special topics not covered in regular courses.

#### **BIOS 797R (VC) Directed Study**

Fall and spring. Provides in-depth exposure to advanced special topics not covered in regular courses.

#### **BIOS 799R (VC) Dissertation**

Fall and spring. Dissertation research



**INFO 500 (2) Principles of Public Health Informatics I**

Fall. No prerequisites. In the emerging field of public health informatics, this course defines PHI as the application of information systems and technology to public health practice and research.

**INFO 501 (2) Principles of Public Health Informatics II**

Spring. Prerequisite: INFO 500. Provides an overview of some of the major areas in which information systems are used in public health. Discusses the opportunities presented and challenges faced in the design, development, deployment, and maintenance of these systems.

**INFO 503 (2) Management Principles for Informatics**

Fall. Prerequisites: INFO 500 and INFO 501. The purpose of this course is to allow students to gain understanding of multiple dimensions to management related to provision of information services. At the end of this course, students should be able to evaluate and justify information technology investments, evaluate the utility of alternative information system delivery modes, and plan strategically for future information system development.

**INFO 511 (3) Analytics**

Spring. Prerequisite: INFO 500 or CS equivalent. Analytics is the use of advanced state-of-the-art computing technologies to synthesize very large datasets in making decisions.

**INFO 521 (3) Database Development for Public Health**

Fall. Prerequisites: Must be a 2<sup>nd</sup> year student. This course will cover the principles utilized in data management and database development for purposes of Public Health Surveillance. The students will learn to create a relational database using Microsoft Access 2010, as well as gaining an understanding of the important terminology, standards and data management principles utilized by data management teams.

**INFO 530 (2) Geographic Information Systems**

Fall. Introduces the use of geographic information systems (GISs) in the analysis of public health data. Addresses basic GIS operations such as buffering, layering, and spatial queries, and develops GIS skills through homework and case studies. Addresses introductory cartography and basic statistical aspects of spatial analysis.

**INFO 532 (4) Principles of Geographic Information Systems**

Fall. Prerequisites: Experience with Windows-based computing is essential to successful completion of the course. The course introduces the use of geographic information systems (GISs) in the analysis of public health data. We develop GIS skills through homework and case studies, and particularly address basic GIS operations such as buffering, layering, and spatial queries as well as more advanced GIS capabilities such as geodatabases. In addition to GIS issues we address introductory cartography, and basic statistical aspects of spatial analysis.

**INFO 540 (2) Informatics and Analytics for Public Health Surveillance**

Fall. Prerequisites: INFO 500, or CS equivalent, INFO 511. In this class students will learn about the use of advanced state-of-the-art computing technologies to synthesize very large datasets to support decisions in public health surveillance and research.

**INFO 544 (2) Network Science in Public Health**

Fall. No Prerequisites. In this class we will cover the key concepts of networks. We will illustrate how network science can be used in public health research and evaluation. Lecture sessions will be followed by laboratory sessions in which important topics from the prior lecture are developed further. In particular students will gain hands-on experience with software tools for analyzing and visualizing network data.

**INFO 550 (2) Software Engineering**

Fall. Prerequisites: INFO 511 and INFO 532. This course seeks to teach principles of software engineering through hands-on experience in constructing a real-life project. During this project the student will be exposed to SE tools, including version control, deployment software, and integrated development environments (IDEs).

**INFO 560R (VC) Current Topics in Public Health Informatics**

Fall and spring. A faculty member offers a new course on a current topic of interest to both master's and doctoral students.

**INFO 595R (0) Practicum**

Fall. Enables students to apply skills and knowledge through a supervised field training experience in a public health setting that complements the student's interests and career goals. Must meet RSPH guidelines and have departmental approval.

**INFO 597R (VC) Directed Study**

Fall and spring. Provides an in-depth exposure to specific topics not covered in regular courses, such as statistical genetics and specialized experimental designs.

**INFO 598R (4) Capstone**

Fall and spring. This class is the culminating experience of the Public Health Informatics program. As such its purpose is to integrate much of what the student has learned in the program. This course provides a productive, supportive and critical environment for Public Health Informatics students who are completing a capstone project for their culminating experience. The course prepares them, using their capstone project as a platform, with skills and competencies needed for successful careers in public health informatics. Students identify topics of interest, engage with scholars and literature on their topic, and through a series of written, poster and oral presentations, make an original, substantive contribution to the field. Public health informatics skills gained during the program are applied and integrated, including critical thinking on methodological and policy issues surrounding the topical issues presented; effective communication strategies for complex public health informatics topics; and applying public health informatics theory and principles to practical public health situations and professional practice.

\*Course will not be taught each year.

## Department of Environmental Health

<http://www.sph.emory.edu/departments/eh/index.html>  
Paige Tolbert, Chair

The Department of Environmental Health uses a trans-disciplinary lens to examine the interface between human health and the environment. The focus is on chemical, physical, and microbial hazards that occur in the workplace, home, and general environment, and the perspective is expansive, from the molecular to planetary level and from the local to global scale. Many disciplines contribute to recognizing, assessing, and controlling these risks, ranging from epidemiology to toxicology, from microbiology to engineering, from exposure science to medicine, and from policy analysis to economics.

The department includes a multidisciplinary core faculty and a large adjunct faculty. Major interests of the core faculty include biomarker development and application, neurologic outcomes, air pollution, children's environmental health, safe water and sanitation, disease ecology, and climate change. The adjunct faculty includes scientists at the CDC, (including the National Center for Environmental Health, the Agency for Toxic Substances and Disease Registry, and the National Institute for Occupational Safety and Health), the American Cancer Society, the Environmental Protection Agency, the Georgia Division of Public Health, nearby universities, and the private sector. The combined faculty has expertise in all critical aspects of environmental health.

The MPH training program equips students with the skills to tackle the environmental health challenges of the future. The core of the program is a set of required and elective courses that provide the foundation for a final synthetic thesis or capstone project. In addition, Atlanta offers an unparalleled selection of activities in environmental health. Students are encouraged to engage in opportunities to conduct research, provide community service, and gain valuable field experience.

### MPH/MSPH Admission Criteria

Applicants range from recent college graduates to experienced practitioners. Criteria for selection include background and experience relevant to environmental health, potential to make a contribution to the field, academic excellence, and recommendations. All applicants should have completed both college-level biology and chemistry; calculus, college-level statistics, and organic chemistry are recommended. GRE or MCAT scores are required.

### Environmental Health MPH Requirements

Six competency requirements are identified as central to the environmental health curriculum: general environmental sciences, toxicology, epidemiology, environmental health practice, environmental health policy, and recognition, evaluation, and control of hazardous exposures. Required course work corresponds to these six competency areas; a minimum of 42 credits are required to graduate. Additionally, a final thesis or capstone project and practicum are required.

Students are encouraged to contact and network with professionals in environmental health in the Atlanta area, including agency officials, private consultants, researchers from the US Centers for Disease Control and Prevention, and others for project advising, career counseling, networking, and other assistance.

### Interdepartmental Programs

The Department of Environmental Health offers several interdepartmental programs. A joint MPH degree, **Global Environmental Health (GEH)**, is offered in Environmental Health and Global Health. A joint MSPH degree is offered in **Environmental Health and Epidemiology (EH-EPI)**. The department also participates in several dual-degree programs with several schools and programs including the Nell Hodgson Woodruff School of Nursing (MSN/MPH), the Emory University School of Law (JD/MPH), the Emory University School of Medicine (MD/MPH), and the Laney Graduate School (MPH/PhD). Check the admissions website for the complete list.

A five-year bachelor's/master's degree (BS/MPH) is offered through the Emory College Department of Environmental Sciences and the Rollins School of Public Health Environmental Health program. Students can earn a Bachelor of Science and Master of Public Health in five years.

Please see the interdepartmental program section in this catalog for more information on EH joint and interdepartmental programs (page 180).

### Environmental Health MPH Required Courses

Course Number	Course Title	Credit Hours
<b>BSHE 500</b>	Behavioral Sciences in Public Health	2
<b>BIOS 500</b>	Statistical Methods I with lab	4
<b>EPI 530</b>	Epidemiologic Methods I with lab	4
<b>GH 500</b>	Critical Issues in Global Health	2
<b>HPM 500</b>	Introduction to the US Health Care System	2
<b>EH 590R</b>	Introduction to Environmental Health	1
<b>EH 510</b>	Foundation of Exposure Science	2
<b>EH 520</b>	Human Toxicology	3
<b>EH 524</b>	Risk Assessment I	2
<b>EH 530 or</b>	Environmental Epidemiology	2
<b>EHS/EPI 747</b>	Advanced Environmental Epidemiology (see prerequisites)	2
<b>EH 550</b>	Environmental and Occupational Health Practice	2
<i>or</i>		
<b>EH593R</b>	Data Analysis in Environmental Health	1
<b>EH 570</b>	Environmental and Occupational Health Policy	3
<b>EH 595</b>	Practicum	0
<b>EH 596</b>	Research Design in Environmental Health	1
<b>or GH 555</b>	Proposal Development	2
<b>EH 599R</b>	Thesis	4
<b>or EH 594</b>	Capstone Seminar: Skills for Environmental Health Professionals	4

## Suggested Electives

Course Number	Course Title	Credit Hours
<b>BIOS 501*</b>	Statistical Methods II with lab	4
<b>EH 515</b>	Air Quality in the Urban Environment	2
<b>EH 523</b>	Neurotoxicology	2
<b>EH 527</b>	Biomarkers and Environmental Public Health	2
<b>EH 546/GH 580</b>	Environmental Microbiology: Control of Food and Waterborne Disease	2
<b>EH 548</b>	Research Methods for Studies of Water and Health	3
<b>EH 549</b>	Critical Analysis of Water, Sanitation, and Hygiene Research	2
<b>EH 571</b>	Environmental Health Policy: Power, Science, Justice	2
<b>EH 580</b>	Injury Prevention and Control	2
<b>EH 581</b>	Public Health Consequences of Disasters	2
<b>EH 582/GH 582</b>	Global Climate Change: Health Impacts and Response	2
<b>EH 583/ENVS 485</b>	Spatial Analysis in Disease Ecology	4
<b>EH 584</b>	Built Environment and Public Health	2
<b>EH 586</b>	Advanced Seminar in Climate Change and Health	2
<b>EH 587</b>	Introduction to Satellite Remote Sensing of the Environment and its Applications to Public Health	3
<b>EH 590R</b>	Topics in Health: Genome, Exposome, and Health	2
<b>EHS 740</b>	Molecular Toxicology	3
<b>EHS 750</b>	The Environmental Determinants of Infectious Disease	2
<b>EHS 760</b>	Advanced Risk Assessment	2
<b>INFO 530</b>	Geographic Information Systems	2

\* Strongly recommended

**Total credits required for MPH Program** 42

## Environmental Health Sciences PhD Program

The Doctor of Philosophy (PhD) in Environmental Health Sciences (EHS) program is offered through the Laney Graduate School of Arts and Sciences at Emory University and housed in the Department of Environmental Health in the Rollins School of Public Health. The program is part of a vision to improve human health by better understanding the impact of environmental factors in the development of disease. It provides comprehensive training for students to become fluent in population-based and laboratory-based research in environmental health science by bridging the interdisciplinary areas of population sciences and laboratory-based toxicological and analytical chemistry research. Competitive candidates will have a strong background in the environmental, biological, or behavioral sciences and a strong motivation for a career in environmental health sciences. Visit <http://www.gs.emory.edu/> for additional information.

## Faculty

**Dana B. Barr**, Research Professor. BA, Brenau College, 1987; PhD, Georgia State University, 1994. Biomarkers, biomonitoring, exposure assessment, analytic chemistry, pesticides, and other hazards.

**Vaughn Barry**, Research Assistant Professor. BA, Mount Holyoke College, 2002; MPH, University of Minnesota, 2006; PhD, Emory University, 2014. Environmental epidemiology

**W. Michael Caudle**, Research Associate Professor. BS, Colorado State University, 1998; PhD, Emory University, 2007. Neurotoxicology.

**Thomas F. Clasen**, Professor and Rose Salamone Gangarosa Chair, Sanitation and Safe Water. BA, St. Mary's University of Minnesota, 1978; JD, Georgetown University Law Centre, 1981; MSc, London School of Hygiene and Tropical Medicine, 2002; PhD, University of London, 2006. Sanitation and safe water.

**Matthew C. Freeman**, Associate Professor. BA, Wesleyan University, 2000; MPH, Emory University, 2005; PhD, London School of Hygiene and Tropical Medicine, 2011. Global safe water and sanitation.

**Matthew O. Gribble**, Assistant Professor. BA/BS, Stanford University, 2009; PhD, Johns Hopkins University, 2013. Water pollution epidemiology and related methodology.

**Mitchel Klein**, Research Assistant Professor. BA, State University of New York, 1979; MAT, Indiana University, 1986; PhD, Emory University, 1998. Epidemiologic methods.

**Karen Levy**, Associate Professor. BA, Stanford University, 1995; MSc, University of California, Berkeley, 2002; MPH, 2006; PhD, 2007. Environmental change and the transmission and incidence of infectious diseases. Epidemiology of waterborne disease with emphasis on household water quality, transmission of enteric waterborne pathogens, impacts of climate change on incidence of waterborne disease, and evolution and spread of antibiotic resistance.

**Yang Liu**, Associate Professor. BS, Tsinghua University, 1997; MS, 1999; PhD, Harvard University, 2004. Modeling of the spatial and temporal distribution of atmospheric aerosols; satellite remote sensing in public health research.

**Carmen J. Marsit**, Professor. BS, Lafayette College, 2000; PhD, Harvard University, 2004. Epigenetics, genomics, children's environmental health, metals, biomarkers, system biology, cancer.

**Gary W. Miller**, Asa Griggs Candler Professor and Associate Dean for Research. BS, Old Dominion University, 1989; MS, 1992; PhD, University of Georgia, 1995. Neurotoxicology.

**Daniel Rochberg**, Instructor. BA/MS, Stanford University, 1999. Climate change.

**P. Barry Ryan**, Professor. BS, University of Massachusetts, 1973; MS, University of Chicago, 1975; PhD, Wesleyan University, 1979. Environmental exposure assessment, community-based environmental epidemiology, environmental chemistry with emphasis on environmental fate and transport.

**Jeremy A. Sarnat**, Associate Professor. BA, University of Michigan, 1990; MS, Indiana University, 1992; MS, Harvard University School of Public Health, 1998; ScD, 2001. Air pollution, exposure assessment, and epidemiology.

**Stefanie Ebel Sarnat**, Associate Professor. BSc, University of British Columbia, 1997; MSc, University of British Columbia, 2000, ScD, Harvard University, 2004. Air pollution epidemiology.

**N. Kyle Steenland**, Professor and Georgia Cancer Coalition Distinguished Scholar. BA, Stanford University, 1968; MA, PhD, State University of New York-Buffalo, 1974; MS, PhD, University of Pennsylvania, 1985. Environmental and occupational epidemiology.

**Paige E. Tolbert**, O. Wayne Rollins Professor and Chair. AB, Harvard University, 1979; MSPH, University of North Carolina-Chapel Hill, 1986; PhD, 1989. Environmental epidemiology.

**Qiang Zhang**, Associate Professor. MD, Harbin Medical University, 1995; MS, Rensselaer Polytechnic Institute, 2003, PhD, University of Connecticut, 2003. Computational modeling of biological systems to understand and predict adverse health outcomes of environmental perturbations.

## Jointly Appointed Faculty

**Robert F. Breiman**, Professor. BS, University of Arizona, 1975; MD, 1979. Emory Global Health Institute.

**Thomas Gillespie**, Associate Professor. BSc, University of Illinois at Urbana, 1996; MS, University of Florida, 2000; PhD, 2004. Department of Environmental Sciences, Emory College.

**Murray J. Gilman**, Associate Professor. BSc, McGill University, 1971; MDCM, 1975. Emory School of Medicine, Department of Medicine.

**Debra Houry**, Associate Professor. BS, Emory University, 1994; MPH/MD, Tulane University, 1998. Emory School of Medicine, Department of Emergency Medicine.

**Uriel Kitron**, Professor. BSc, Hebrew University, 1975; PhD, University of California, 1981; MPH, University of Michigan, 1982. Department of Environmental Sciences, Emory College.

**Juan Leon**, Associate Professor. BA, Dartmouth College, 1996; MPH/PhD, Northwestern University, 2003. Rollins School of Public Health, Hubert Department of Global Health.

**Benjamin A. Lopman**, Associate Professor. BS, University of Florida, 1999; MSc, London School of Hygiene and Tropical Medicine, 2000; PhD, Open University/Health Protection Agency, 2004. Rollins School of Public Health, Department of Epidemiology

**Michele Marcus**, Professor. BS, City University of New York–Brooklyn College, 1974; MPH, Columbia University, 1981; MPhil, 1984; PhD, 1986. Rollins School of Public Health, Department of Epidemiology.

**Linda A. McCauley**, Professor and Dean. BSN, University of North Carolina, 1971; MN, Emory University, 1979; PhD, University of Cincinnati, 1988. Nell Hodgson Woodruff School of Nursing.

**Christine L. Moe**, Eugene J. Gangarosa Associate Professor of Safe Water and Sanitation. BA, Swarthmore College, 1979; MS, University of North Carolina, 1984; PhD, 1989. Rollins School of Public Health, Hubert Department of Global Health.

**Eri Saikawa**, Assistant Professor. BE, University of Tokyo, 2003; MPA, Indiana University at Bloomington, 2005; PhD, Princeton University, 2010. Department of Environmental Sciences, Emory College.

**Gonzalo M. Vazquez Prokopec**, Assistant Professor. Master's equivalent, University of Buenos Aires, 2003; PhD, 2007. Department of Environmental Sciences, Emory College.

## Adjunct and Visiting Faculty

**Scott M. Bartell**, Adjunct Associate Professor. BA, University of California, Berkeley, 1994; MS, University of Washington, 1996; MS, University of California–Davis, 2001; PhD, University of California–Davis, 2003.

**Jesse E. Bell**, Adjunct Assistant Professor. BS, Emporia State University, 2003; PhD, The University of Oklahoma, 2009. National Centers for Environmental Health, Centers for Disease Control and Prevention and CICS-NC and NOAA's National Climate Data Center.

**Suzanne Binder**, Adjunct Professor. BS, McGill University, 1976; MD, Tufts University School of Medicine, 1981. Consultant.

**Nisha Botchwey**, Adjunct Associate Professor. AB, Harvard University, 1997; MCRP, University of Pennsylvania, 1999; PhD, University of Pennsylvania, 2003; MPH, University of Virginia, 2011. Georgia Institute of Technology.

**Patrick N. Breysse**, Adjunct Professor. BS, Washington State University, 1978; MHS, The Johns Hopkins University, 1980; PhD, The Johns Hopkins University, 1985. US Center for Disease Control and Prevention, National Center for Environmental Health and Agency for Toxic Substances and Disease Registry.

**Joe Brown**, Adjunct Assistant Professor. BS, University of Alabama, 2001; MPhil, University of Cambridge; PhD, University of North Carolina, Chapel Hill, 2007. Georgia Institute of Technology.

**William H. Bullock**, Adjunct Assistant Professor. BS, University of South Alabama, 1986; MSPH, Tulane University, 1991, DHSc, Nova Southeastern University, 2007. CSX Transportation.

**Paula A. Burgess**, Adjunct Assistant Professor. MD, Emory University School of Medicine, 1979; MPH, Emory University Rollins School of Public Health, 2001. Agency for Toxic Substances and Disease Registry. US Centers for Disease Control and Prevention.

**Dennis B. Creech**, Adjunct Lecturer. BS, The Citadel, 1972; MS, Emory University, 1977. The Kendeda Fund.

**Lyndsey Darrow**, Adjunct Associate Professor. BA, Stanford University, 2000; PhD, Emory University, 2008. University of Nevada, Reno

**Andrew L. Dannenberg**, Adjunct Professor. AB, Swarthmore College, 1974; MD, Stanford University, 1979; MPH, Johns Hopkins University, 1983. University of Washington.

**Owen J. Devine**, Adjunct Associate Professor. BS, Pennsylvania State University, 1979; MS, University of Georgia, 1982; PhD, Emory University, 1992. US Centers for Disease Control and Prevention.

**V. Ramana Dhara**, Adjunct Associate Professor. MBBS, Armed Forces Medical College, 1976; MPH, Rutgers University, 1987; SED, University of Lowell, 2002. US Centers for Disease Control and Prevention.

**Henry Falk**, Adjunct Professor. BA, Yeshiva College, 1964; MD, Albert Einstein College of Medicine, 1968; MPH, Harvard University, 1976. US Centers for Disease Control and Prevention.

**Thomas L. Farris**, Adjunct Professor. BS, College of William and Mary, 1983; MD, University of Virginia, 1987; MPH, George Washington University, 1994. Kimberly Clark Corporation.

**Bruce Fowler**, Adjunct Professor. BS, University of Washington, 1968; PhD, University of Oregon Medical School, 1972. Agency for Toxic Substances and Disease Registry, US Centers for Disease Control and Prevention.

**Tim Frederick**, Adjunct Instructor. BA, University of Miami, 1989; MPH, Emory University, 1996. US Environmental Protection Agency.

**Philip L. Graitcer**, Adjunct Professor. BA, Duke University, 1966; DMD, Temple University, 1970; MPH, Harvard University, 1972. Consultant.

**Roby Greenwald**, Adjunct Assistant Professor. BS, Clemson University, 1994; MS, Georgia Institute of Technology, 2001; PhD, 2005. Georgia State University.

**Richard C. Hertzberg**, Adjunct Professor. BS, Harvey Mudd College, 1968; PhD, University of Washington, 1977. USEPA (retired). Biomathematics Consulting and Toxicology Excellence for Risk Assessment.

**Jeremy J. Hess**, Adjunct Associate Professor. BA, Brown University, 1995; MPH (IH), Emory University, 2002; MD, 2003. University of Washington.

**Vincent R. Hill**, Adjunct Associate Professor. BSc, Johns Hopkins University, 1990; MSc, 1991; PhD, University of North Carolina, Chapel Hill, 2001. US Centers for Disease Control and Prevention.

**Bilqis Amin Hoque**, Adjunct Professor. BSc, Bangladesh Agricultural University, 1977; MSc, University of Reading, 1980; PhD, Oklahoma State University, 1984. Environment and Population Research Center, Bangladesh.

**Ciannat Howett**, Adjunct Associate Professor. BA, Emory University, 1987; JD, University of Virginia, 1992. Sustainability Initiatives, Emory University.

**Brian Hughes**, Adjunct Instructor. BS, Clemson University, 1982; MS, Southern Illinois University, 1986. Consultant

**Barry L. Johnson**, Adjunct Professor. BS, University of Kentucky, 1960; MS, Iowa State University, 1962; PhD, 1967. Assistant Surgeon General (retired). Consultant.

**Mark E. Keim**, Adjunct Professor. BS, Southern Illinois University, 1987; MD, 1991; MBA, Emory University, 2014. Consultant.

**Muin J. Khoury**, Adjunct Professor. BS, American University of Beirut, 1975; MD, 1979; PhD, Johns Hopkins University, 1985. US Centers for Disease Control and Prevention.

**Amy E. Kirby**, Adjunct Assistant Professor. BS, University of Georgia, 1997; PhD, University of Buffalo, 2003; MPH, Emory University, 2012. US Centers for Disease Control and Prevention.

**Flemming Konradsen**, Visiting Fellow. BSc, University of Copenhagen, 1990; PhD, 1998. Global environmental health, especially water and sanitation in developing countries, malaria vector control, pesticide self-harm. University of Copenhagen.

**Judy Kruger**, Adjunct Assistant Professor. BSc, University of Waterloo, 1993; MS, University of Illinois at Chicago, 1997; PhD, 2001. US Centers for Disease Control and Prevention.

**Richard A. Lemen**, Adjunct Professor. BA, Central Methodist College, 1967; MSPH, University of Missouri, 1971; PhD, University of Cincinnati, 1992. National Institute for Occupational Safety and Health (retired). Consultant.

**George E. Luber**, Adjunct Professor. BA, University of Florida, 1993; MA, Northern Arizona University, 1997; PhD, University of Georgia, 2002. US Centers for Disease Control and Prevention, National Center for Environmental Health.

**Morris L. Maslia**, Adjunct Instructor. BCE, Georgia Institute of Technology, 1976; MSCE, 1980. Agency for Toxic Substances and Disease Registry, US Centers for Disease Control and Prevention.

**Mia Mattiolo**, Adjunct Assistant Professor. BS, University of Georgia, 2008; MS, Stanford University, 2010; PhD, Stanford University, 2012. US Centers for Disease Control and Prevention.

**Michael A. McGeehin**, Adjunct Associate Professor. BS, University of Scranton, 1977; MSPH, University of Colorado, 1989; PhD, Colorado State University, 1992. US Centers for Disease Control and Prevention, National Center for Environmental Health.

**A. Stanley Meiburg**, Adjunct Associate Professor. BA, Wake Forest University, 1975; MA, 1978; PhD, The Johns Hopkins University, 1986. USEPA.

**M. Deborah Millette**, Adjunct Instructor. BA, University of Dayton, 1972; MPH, Emory University, 1990. US Centers for Disease Control and Prevention (retired). Consultant.

**Maria C. Mirabelli**, Adjunct Associate Professor. BA, University of Virginia, 1995; MPH, Emory University, 1998; PhD, University of North Carolina at Chapel Hill, 2005. US Centers for Disease Control and Prevention, National Center for Environmental Health.

**Frank L. Mitchell**, Adjunct Associate Professor. AB, New Mexico Highlands University, 1960; DO, College of Osteopathic Medicine and Surgery, 1964; LLB, LaSalle Extension University, 1966; MPH, University of Michigan, 1970. US Public Health Service (retired). Consultant.

**Joel F. Moorhead**, Adjunct Assistant Professor. AB, Brown University, 1968; MD, University of Cincinnati, 1978; MPH, University of Arizona, 1995. Consultant.

**M. Moiz Mumtaz**, Adjunct Professor. BS, Osmania University, 1970; MS, 1972; MS, Oregon State University, 1976; PhD, University of Texas, 1984. Agency for Toxic Substances and Disease Registry, US Centers for Disease Control and Prevention.

**H. Edward Murray**, Adjunct Professor. BS, Texas A&M University, 1969; MT, US Navy, 1972; MS, University of Arizona, 1976; PhD, University of Texas, 1979. Agency for Toxic Substances and Disease Registry, US Centers for Disease Control and Prevention.

**Melvin Myers**, Adjunct Associate Professor, BS, University of Idaho, 1967; MPA, Indiana University, 1977. National Institute for Occupational Safety and Health (retired).

**Christopher J. Portier**, Adjunct Professor. BS, Nicholls State University, 1977; MS, University of North Carolina, 1979; PhD, 1981. US Centers for Disease Control and Prevention, National Center for Environmental Health (retired).

**Justin V. Remais**, Adjunct Associate Professor. BA, University of California, Berkeley, 1998; MS, 2002; PhD, 2006. Disease ecology of environmentally mediated tropical diseases, impact of land use and climate change.

**Anne Riederer**, Adjunct Assistant Professor. BSc, Brown University, 1989; MSc, Georgetown University School of Foreign Service, 1991; ScD, Harvard University School of Public Health, 2004. Consultant.

**Shubhayu Saha**, Adjunct Assistant Professor. BS, Calcutta University, 1977; MA, Jawaharlal Nehru University, 1999; PhD, North Carolina State University, 2008. Centers for Disease Control and Prevention.

**Glen Satten**, Adjunct Professor. BA, Oberlin College, 1979; MA, Harvard University, 1981; PhD, Harvard University, 1985. US Centers for Disease Control and Prevention.

**Thomas H. Sinks Jr.**, Adjunct Professor. BS, Tulane University, 1973; MS, 1982; PhD, Ohio State University, 1985. US Environmental Protection Agency.

**James M. Smith**, Adjunct Professor. BS, West Virginia University, 1964; MS, 1966; PhD, 1969. US Centers for Disease Control and Prevention, National Center for Environmental Health (retired).

**Matthew J. Strickland**, Adjunct Associate Professor. BA/MA, Case Western Reserve University, 2000; MPH, Ohio State University, 2002; PhD, Emory University, 2007. University of Nevada, Reno.

**Pamella D. Thomas**, Adjunct Associate Professor. MD, University of the West Indies, 1974; MPH, Medical College of Wisconsin, 1990. Consultant.

**Michael J. Thun**, Adjunct Professor. BA, Harvard University, 1964; MD, University of Pennsylvania, 1975; MS, Harvard University, 1983. American Cancer Society (retired).

**Mary C. White**, Adjunct Professor. BA, University of Rochester, 1977; MPH, University of Michigan, 1979; ScD, Harvard University, 1986. US Centers for Disease Control and Prevention.

**Andrea Winquist**, Adjunct Assistant Professor. BA, Bethel College, 1988; MD, Northwestern University, 1993; PhD, Emory University, 2009. Environmental epidemiology, health effects of air pollution and PFOA.

**Jonathan S. Yoder**, Adjunct Instructor. BA, Clearwater Christian College, 2001; MSW, University of Florida, 1999; MPH, University of South Florida, 2001. US Centers for Disease Control and Prevention.

**Ying Zhou**, Adjunct Assistant Professor. BS, Tsinghua University, 1997; ScD, Harvard University, 2002. US Centers for Disease Control and Prevention.

## Environmental Health Course Descriptions

### EH 500 (2) Perspectives in Environmental Health

Fall, spring. Presents the ecological paradigm as applied to public health. Introduces the core areas of environmental health -- human toxicology, environmental epidemiology and exposure science -- and how they help us understand environmental influences of disease, exposure pathways, regulatory efforts, and the health impacts of various environmental exposures. Discusses various aspects of environmental health, including environmental contamination, food safety, occupational health, chemical and physical hazards, injuries, vector control, global climate change and rapid industrialization, and developing nations' perspectives.

**EH 510 (2) Foundations of Exposure Science**

Spring. In this course, students will be introduced to the concepts of exposure science and the exposome. Students will learn how contaminants are transported from sources to receptors and, in particular, how human receptors are affected by such contact. All environmental media including air, water, soil, and dietary intake will be considered. Measures of exposure include direct measurements of environmental media contamination as well as biomarkers of exposure will be presented and discussed in detail. Students will examine the literature of exposure science through readings and research.

**EH 515 (2) Air Quality in the Urban Environment: A Survey of Research Methods and Recent Findings**

Spring. The link between the air we breathe and human health affects millions globally, placing urban air quality as a major public health concern. This course examines ways to characterize urban air pollution as well as its public health implications based on recent clinical, epidemiological, and toxicological research. The course will be highly interactive and will provide instruction on conducting basic, applied air quality research in academic, governmental, and grassroots settings.

**EH 520 (3) Human Toxicology**

Fall. Prerequisites: college-level biology and chemistry or instructor's permission. Examines the basic concepts of toxicology in environmental and occupational surroundings. Discusses distribution, absorption, metabolic conversion, and elimination of toxic agents. Mechanisms of injury to body systems following exposure to toxic chemicals are explored at systemic, organ, and cellular levels. Topics include classes of toxicants and methods for detecting and evaluating their effects.

**EH 523 (2) Neurotoxicology**

Spring. Prerequisite: EH 520 or instructor's permission. This course is designed to permit in-depth analysis of the impact of neurotoxic agents on human health. Each course meeting will consist of a lecture on a particular class of neurotoxic agents, with emphasis on human health impact mechanisms of action, followed by critical analysis of relevant neurotoxicology literature. Topics covered include pesticides, metals, industrial toxicants, venoms and poisons, and drugs of abuse.

**EH 524 (2) Risk Assessment I**

Fall. Surveys the general principles and practices of environmental health risk assessment for toxic exposures in the environment and interactions with other factors contributing to human health risks. A variety of case studies will be used to demonstrate the basic methods and results of risk assessment, including estimation/evaluation of potential risk based on empirical evidence (e.g., laboratory animal studies, human disease clusters), hazard and dose-response assessment for regulatory decisions, and uncertainty analysis and risk communication.

**EH 527 (2) Biomarkers and Environmental Public Health**

The study of human susceptibility to environmental toxic chemicals has undergone a major transformation as the knowledge of how toxic chemicals behave in the human body has become more readily available. Coupled with the advanced Human Genome Project and the ecogenetic research programs, the use of biomarkers will allow us not only to accurately assess the exposures to those toxic chemicals, but to predict the resulting adverse health outcomes as well. This course is designed to introduce the use of biomarkers in environmental public health from qualitative and quantitative perspectives and the concept of exposomics, the totality of exposures throughout all life stages.

**EH 530 (2) Environmental and Occupational Epidemiology**

Spring. Prerequisite: EPI 530 or equivalent. Reviews basic epidemiological principles in the context of environmental and occupational health. Key concepts include confounding, information bias, selection bias and interactions between exposures and susceptibility factors that may jointly contribute to health outcomes. Students review and critique a number of published articles; on completion of this class, students will be savvy consumers of epidemiologic studies.

**EH 543 Sustainability**

Fall. Explores principles, policies and practices related to sustainability. The course will cover the general approach to sustainability from environmental, social and economic perspective. Lectures will also cover specific sustainability-related topics, including energy, water, waste, transportation, food, buildings, greenspace, land use, community revitalization, behavior change, purchasing, and curriculum development. The focus of our work together will be to analyze the role of the public health professional in shaping sustainability policy and furthering sustainability practices.

**EH 546/GH 580 (2) Environmental Microbiology: Control of Food and Waterborne Diseases**

Spring. Introduces the major disease-causing microorganisms in the environment and their transmission through water, food, and air. Describes the organisms, pathogenesis, clinical diseases, reservoirs, modes of transmission, epidemiology, and surveillance systems. Discusses the transport, survival, and fate of pathogens in the environment and the concept of indicator organisms as surrogates for pathogens and the removal and inactivation of pathogens and indicators by water and wastewater treatment processes. Presents examples of the public health impact of food and waterborne diseases.

**EH 548 (3) Research Methods for Studies of Water and Health**

Spring. GH 529 (Water and Sanitation in Developing Countries) or equivalent recommended as background. This hands-on course covers methods needed to carry out field studies focused on water and health. Through lecture and laboratory exercises, students will learn critical skills in measuring water quality exposure assessment and waterborne disease health outcomes that will enable them to conduct their own field studies and analyze the resulting data. The focus will be on issues of microbiological contamination in developing countries, but chemical contamination and domestic cases will also be covered.

**EH 549 (2) Critical Analysis of Water, Sanitation, and Research**

Spring. Covers new and emerging topics in water, sanitation, and hygiene (WASH) research. Through reading of current literature, students will be exposed to different study designs and methods, theoretical approaches, and current debates among researchers. Each semester will focus on three to four different topics based on recent publications and topics of interest. Course work will focus on the ability to critically read and assess literature, understanding of the breadth of methods available to address WASH research topics, writing of research papers, and summaries of key findings for lay audiences. Potential topics include women and water, climate, animal-borne WASH illness, sanitation marketing, food safety, cholera in Haiti, point-of-use water treatment sustainability, integrated water resource management, menstrual hygiene management, water safety plans, and WASH in emergency settings.

**EH 550 (2) Environmental and Occupational Health Practice**

Fall. Presents an overview of organizational, legal, and administrative issues in environmental and occupational health practice such as program design in industry, worker's compensation, drug screening, employee assistance programs, and ethical issues.

**EH 570 (3) Environmental and Occupational Health Policy**

Spring. Introduces administrative and regulatory law principles, specific laws (OSHA, SARA, etc.) pertinent agencies (OSHA, EPA, ATSDR, etc.), and related topics such as risk communication and worker's compensation.

**EH 571 (1) Global Environmental Health Policy: Power, Science and Justice**

Spring. This seminar encourages students to explore the forces that influence the development of environmental health policy, particularly in low-income countries. Using a case-study approach that draws on the instructor's experience in international water and sanitation, the course examines the actors, their agendas and strategies, and the political, social, legal and economic systems in which they operate. Special emphasis is given to the role of research and scientific evidence in environmental health policymaking. Readings, discussion and occasional guest speakers also explore issues of equity and environmental justice.

**EH 580/BSHE 591M (2) Injury Prevention and Control**

Fall. This course provides a basic introduction to injury as a public health problem. Students learn about key injury prevention and control concepts, as well as the epidemiology, prevention, and treatment of various causes of intentional and unintentional injury. This class features content experts from CDC and other local agencies.

**EH 581 (2) Public Health Consequences of Disasters**

Spring. This course considers public health aspects of preparedness and management of natural and man-made disasters, including tornados, floods, and nuclear accidents, with an emphasis on understanding their complexity and impact. The course is taught using texts, peer-reviewed journal articles, and presentations by top field experts. This course is designed to stimulate understanding and to encourage exchange of ideas regarding lessons learned from the past and the implications for current and future policies and disaster planning.

**EH 582/GH 582 (2) Global Climate Change: Health Impacts and Response**

Fall. Explores the role of the environment in the transmission of infectious diseases and the emergence of new pathogens. Topics include the basic principles of infectious disease transmission, the influence of climate variation and change on infectious diseases, the impact of deforestation and urbanization on emergence or re-emergence of pathogens, infectious disease outbreaks associated with natural disasters, ecological sanitation, and infectious disease transmission in indoor environments.

**EH 583/ENVS 483 (4) Spatial Analysis in Disease Ecology**

Spring (next offering will be 2018). Prerequisites: at least one GIS class (INFO 530 or ENVS 250); statistics is also recommended. This course covers patterns of health and disease in place and time; application of geospatial technologies and methods for epidemiology; analysis of time- space relations; clusters and diffusion of disease; and geographical epidemiology of selected infectious and noninfectious diseases.

**EH 584 (2) Built Environment and Public Health**

Fall. Recommended prerequisites: INFO 530 or GIS knowledge. An interdisciplinary course on the built environment and public health. The United States and other developed, as well as developing countries, are facing increasingly lethal and costly epidemics of acute and chronic diseases related to land use and built environment decisions. While the hazards presented by air and water pollution are well recognized for acute, infectious, and toxicological illnesses, there is only now increasing recognition of the hazards presented by building and community designs that fail to recognize human health. Land use and built environment decisions impact every age group, social and racial minority. These impacts range from the very acute (motor vehicle trauma) to the long term (obesity, cancer, heart disease). Increased attention to the health implications of the built environment has led to the development of innovative solutions, such as mixed use developments and investments in bicycling and pedestrian infrastructure. Half of the course takes place at Georgia Tech; allow for travel time.

**EH 586 (2) Advanced Seminar in Climate Change and Health: Research and Policy**

Spring. Recommended prerequisite: EH 582/GH 582. This course builds on EH/GH 582, Global Climate Change: Health Impacts and Response, exploring the interaction of methodological and policy issues surrounding the public health effects of climate change. Methodological topics will include advanced modeling issues, epidemiologic methods, bias, remote sensing, issues of measurement error and uncertainty analysis. Meanwhile, policy discussions will emphasize how scientific evidence based on these methods is injected into policy debates. Topics will include issues of scientific consensus, objectivity,

uncertainty and the ethics of scientist advocacy. The course will cover the impact of environmental change on the practice of environmental epidemiology; problems and opportunities in using models to project impacts; the necessity of, and strategies for, interdisciplinary work; strategic concerns in emerging areas of public health practice; challenges deriving policy on issues of great importance and cost; the role of health scientists in determining adaptation funding priorities, technology transfers and global treaties; and applied public health tools, including vulnerability assessments and health impact assessments.

### **EH 587 (3) Introduction to Satellite Remote Sensing of the Environment and its**

#### **Applications to Public Health**

Spring. Prerequisites: at least one GIS class (INFO 530) or equivalent; This course covers instruction on basic principles behind satellite remote sensing; the terminology and instrumentation of satellite remote sensing and structure of satellite data; solid-surface and atmospheric remote sensing techniques; case studies of applying satellite remote sensing in public health and environmental science; and analysis of the spatial patterns of air pollution using satellite data.

### **EH 590R (1) Introduction to Environmental Health**

Fall. EH department students only. Required foundation course for students in all master's programs administered by Department of Environmental Health. Introduces students to major topics in environmental health, including mechanisms of toxicity, pesticides and other chemicals, children's health, WASH (water, sanitation, and hygiene), infectious disease, air pollution, climate change, and planetary health. Describe tools used to understand these EH topics, such as exposure science, epidemiology, toxicology, biomarkers/omics, risk assessment, implementation science, and policy. Provides students with an introduction to the EH faculty, their perspectives and research interests on these major EH topics, as well as an overview of EH courses.

### **EH 590R/HLTH 385 (2) Topics in Health: Genome, Exposome, and Health**

Spring. This course is designed to introduce students to emerging concepts and approaches for understanding human health and disease. We anticipate that students are familiar with the state of knowledge of the human genome, but not so with the concept of the exposome. Each week will consist of a 50 min lecture followed by 50 min of facilitated discussion (small and large group). A paper will be assigned for each lecture and must be read and reviewed prior to class.

### **EH 590R (1) Environmental Health Seminar: Initiation and Management of Research Projects under Constrained Conditions**

Spring. Students will learn critical aspects of managing research projects in resource-limited environments. Key topics covered include: local permits and ethical clearances, international transport of biological and environmental material, formalizing partnerships, introducing a project to relevant stakeholders, administrative management, recruitment of staff and terms and conditions for staff, staff security, quality assurance systems, and data sharing/authorships among partners. Learning will take place through role plays, student presentations, instructor case presentations, and group problem-solving exercises. One hypothetical project will be used as a case throughout the module. Taught in a short-course format, usually over four days.

### **EH 590R (2) Special Topics: Computational Systems Biology: Modeling Biological Responses**

Spring. Understanding biological responses to external perturbations, their health outcomes and risks increasingly requires a systems biology approach. This course teaches the dynamical modeling aspect of systems biology. Such an approach is necessary to make sense of biological pathways/circuitries comprising genes, RNAs, proteins, and metabolites, and to understand how they are quantitatively organized as complex networks to carry out integrated, systems-level functions and respond to biological, pharmaceutical and environmental perturbations. This interdisciplinary course introduces the basic concepts and principles in systems biology, and numerical simulation techniques for mechanically understanding and predicting biological responses.

### **EH 590R (1) Special Topics: Oceans and Human Health**

Spring. This course examines the reciprocal relationship between marine environmental conditions and human well-being. A major focus is how anthropogenic changes to earth systems (e.g., climate change, perturbations of the mercury biogeochemical cycle, and the global spread of persistent organic pollutants) have systemic effects that can influence human health in direct and indirect ways. This course will strengthen students' ability to think about systems-level influences on health.

### **EH 593R (1) Data Analysis in Environmental Health**

Fall and spring. This course provides a general review of analytic methods commonly used in the analysis of environmental health data. This is an application oriented class with an emphasis on working through the analytic steps given the research goal and the data in hand. Much of the discussion is interactive, working through relevant issues in individual student theses that lead to achieving an appropriate analysis, including the coding of statistical software. Additional topics may be discussed based on the particular interests and research activities of the students. Pre-requisite: EH department students only; students must bring thesis data to the class.

### **EH 594 (4) Capstone Seminar: Skills for Environmental Health Professionals**

Spring. This course provides a productive, supportive and critical environment for Environmental Health (EH) and Global Environmental Health (GEH) students who are completing a capstone project for their culminating experience. The course prepares them, using their capstone project as a platform, with skills and competencies needed for successful careers in environmental health. Students identify topics of interest, engage with scholars and literature on their topic, and through a series of written, poster and oral presentations, make an original, substantive contribution to the field. Environmental health skills gained during the EH and GEH programs are applied and integrated, including critical thinking on methodological and policy issues surrounding the topical issues presented; effective communication strategies for complex environmental health topics; and applying environmental health theory and principles to practical public health situations and professional practice. Students will critically review each other's written and oral work with an emphasis on methodological understanding, appropriate assessment of applied and research needs posed by the topic, intended audience, communication skills, and policy concerns. Career development goals will be addressed through a series of sessions focused on developing a compelling portfolio of environmental health activities as a junior environmental health professional.

**EH 595 (0) Practicum**

A practicum is a unique opportunity for graduate students to integrate and apply practical skills and training learned through course work and prior experiences in a professional public health environment. In some cases students can use a work-study, graduate assistantship, or teaching assistant position structured to meet the practicum requirement. A practicum is a significant educational experience that generally requires 200 to 400 clock hours in a public health agency, institution, or community under the supervision of site administrators and the guidance of the student's department, the Office of Applied Public Health, and/or Career Services.

**EH 596 (1) Research Design in Environmental Health**

Fall. Introduces basic concepts for conducting research in environmental health. The course takes place during the first half of the fall semester. Students will have opportunities to identify and/or refine potential culminating experience project topics. Students will also review: criteria of their potential projects. Students will then have opportunities to develop, refine and apply their analytical and writing skills in the development of their culminating experience project proposal. Students will complete a brief plan for the steps in the development of their potential projects. Students will then have opportunities to develop, refine and apply their analytical and writing skills in the development of their culminating experience project proposal. Students will refine their research questions and/or project objectives, formulate plans for data management and analysis, and prepare and present their project proposal to departmental faculty for review, comment and approval.

**EH 597R (VC) Directed Study**

Students pursue a specialized course of study in an area of special interest. Complements rather than replaces or substitutes course work.

**EH 599R (VC) Thesis**

Students prepare a monograph that embodies original research in environmental or occupational health. This incorporates a proposition that has been successfully evaluated with appropriate statistical techniques and is potentially publishable or has potential public health impact. All students in the EH department will be graded as satisfactory/ unsatisfactory on the thesis project.

The following courses are for the Environmental Health Sciences (EHS) Doctoral curriculum. Master's students may enroll based on EH department permission and space availability.

**EHS 600R (2) Research Rotation (fall, spring)****EHS 610 (1) Environmental Health Sciences Seminar (fall, spring)****EHS 701 (1) Public Health Research: Discovery to Practice**

Fall. The field of public health necessitates the translation of research into programs that promote population health. This course focuses on how research in each discipline of public health can be disseminated and put into practice, contributing to the improvement of population health. This course also lays the foundation for students to move beyond the disciplinary silos common to doctoral work and enrich their studies through multiple perspectives. This course prepares students to understand the language and approaches of several disciplines comprising the field of public health (in academia and practice), thereby fostering greater potential for collaboration and improvement in population health.

**EHS 710 (2) Advanced Laboratory and Field Methods in Exposure Science**

Spring. EHS710 is a course for more advanced students. In this course, students will be introduced to the concepts of exposure science and the exposome. Students will learn how contaminants are transported from sources to receptors and, in particular, how human receptors are affected by such contact. All environmental media including air, water, soil, and dietary intake will be considered. Measures of exposure include direct measurements of environmental media contamination as well as biomarkers of exposure will be presented and discussed in detail. Students will examine the literature of exposure science through readings and research. While working in small groups of 2-4 individuals, students will design and implement a small-scale field study of exposure to a contaminant or contaminants of public health importance and present their results in class.

**EHS 740/IBS 740 (2) Molecular Toxicology**

Spring. Prerequisites: introductory biochemistry, EH 520, EHS student, or instructor's permission. This course builds upon select topics presented in EH 520 and serves to elaborate the understanding of the interaction between environmental chemicals and human health from a cellular and molecular framework. Topics include molecular mechanisms of toxicity, reproductive toxicity, pesticides and neurotoxicity, induction of liver enzymes and toxicity, endocrine disruption, and application of computational models to toxicology.

**EHS 747 / EPI 747 (2) Methods in Environmental Epidemiology**

Fall. Prerequisites: EPI 530, BIOS 500, BIOS 501; EPI 534 is also preferred, or EHS student or instructor's permission. Explores design and analysis issues specific to occupational and environmental epidemiology. Case studies representative of a variety of exposures, outcomes, and study designs are used to illustrate the application of epidemiological principles to the study of exposures occurring in the workplace and in the general environment.

**EHS 750 (3) Environmental Determinants of Infectious Disease**

Spring. This course takes a global perspective, exploring the diverse environmental phenomena that influence the transmission of infectious diseases. Complex dynamics, feedbacks, and spatial flows inherent in the transmission of environmentally driven infectious diseases are examined, focusing on vector-borne diseases, tropical parasites, and waterborne pathogens. The epidemiological significance of environmental processes are explored, including weather, climate extremes, hydrology, development projects, and land use change. Anthroponotic and zoonotic diseases of global significance are examined with respect to how environmental factors shape their distributions, intensity, environmental fate, transport, and persistence. The specific epidemiological consequences of climate change, dams, irrigation, agricultural intensification, and de/reforestation are emphasized, and analytical tools for their study presented and critiqued, including methods for modeling coupled environmental-epidemiological systems.

**EHS 760 (2) Advanced Risk Assessment**

Spring. Prerequisite: EH 524 or EHS student. Educates and trains students in the processes of risk assessment, risk model selection, and use of toxicology and environmental informational databases to create risk assessment calculations and determinations.

**EHS 777R (2) Problem Based Learning in Environmental Health Sciences (fall, spring)**

**EHS 790R (1) Research Design and Management (fall, spring)**

**EHS 797R (VC) Directed Study (fall, spring)**

**EHS 798R (VC) Precandidacy Research**

**EHS 799R (VC) Dissertation Research**

### **Courses of Interest Outside Emory**

Students may be interested in taking courses that are not available at Emory through the Atlanta Regional Council for Higher Education (ARCHE) program. Ask your department for more information about the ARCHE program. Examples students in the EH department may be interested in include:

### **Courses at the Georgia Institute of Technology School of Civil Engineering**

#### **CEE6311 (3) Microbial Principles**

Microbiological principles with emphasis on microbial nutrition and growth, inhibition and control of growth, biochemical thermodynamics, metabolic pathways, enzyme and microbial kinetics.

#### **CEE6312 (3) Chemical Principles-EnvE**

Fundamental principles of chemical equilibria and environmental organic chemistry in dilute aqueous systems with emphasis on chemical speciation and environmental engineering applications.

#### **CEE6313 (3) Fate of Contaminants**

Effects of physical, chemical, and biological processes on the fate and transport of contaminants in unsaturated and saturated porous media.

#### **CEE6330 (3) Physicochemical Process**

Theory and application of the physical and chemical processes of coagulation, flocculation, sedimentation, softening, filtration, and disinfection in water and wastewater treatment.

#### **CEE6761 (3) Contaminated Sedimentary Geochemistry**

Acquaints students with fate of major pollutants, nutrients, organic compounds, such as pesticides, PAHs, and trace metals in sedimentary systems.

#### **CEE6792 (3) Air Pollution Meteorology**

Vertical temperature and wind structure, topographic effects, natural removal processes, atmospheric dispersion of stack effluents, air pollution climatology, meteorological management of air pollution.

#### **CEE6794 (3) Atmospheric Chemical Modeling**

Application of modern numerical methods to the prediction of atmospheric chemical and physical compositions; specific applications using computer models developed by the students are included.

**The following courses are taught at the undergraduate level:**

#### **CE 4100 (3) Environmental Engineering Systems**

An introduction to the field of environmental engineering and issues associated with water, air, and land pollution. Includes current topics such as hazardous waste, risk assessment, groundwater contamination, global climate change, ozone depletion, acid deposition, and sustainable technologies.

#### **CE 4110 (2) Water Quality Engineering**

Introduction to reclamation of water and wastewater for potable and industrial uses and groundwater remediation. Includes principles of physical, chemical, and biological treatment processes such as coagulation, sedimentation, softening, filtration, secondary biological treatment, and reactor design.

#### **CE 4120 (2) Hazardous Substance Engineering**

A senior-level course providing an introduction to the technical aspects of hazardous waste and toxic substance management. Topics include legislation, exposure and risk assessment, procedures for conducting remedial investigation/feasibility studies, waste treatment methods, basics of solute transport, on-site treatment methods, landfill design, waste minimization, and recycle and reuse.

#### **CE 4130 (2) Environmental Engineering Facilities Design**

Focuses on design of facilities for water, wastewater, air quality, hazardous waste, and solid waste. Includes supervised design problems and inspection trips.

### **Courses at the Georgia Institute of Technology College of Architecture, City Planning Program**

#### **CP 8823 Environmental Planning and Management**

This course exposes students to the role ecological principles may play in urban planning. Students learn about ecological structure and function and the principal technological and design-based tools currently employed in environmental management. The lab component of the course introduces students to a range of spatial analysis and remote sensing techniques.

#### **CP-8823-NB Impact Assessment**

Health Impact Assessment (HIA) is a public health and planning tool used to inform decision-makers about the potential health impacts of proposed projects, programs, and policies that do not traditionally focus on health outcomes (e.g. transportation, education, housing), but are likely to affect the public's health. This course is particularly appropriate for students interested in the links between public health and community design. In the course, students will first consider the rationale for conducting HIAs, learn the necessary steps to conduct an HIA, review national and international case studies, and discuss how HIA findings may impact decision-making. Students will conduct an HIA of a current proposed project, policy or program, evaluate a completed HIA and propose approaches to institutionalizing HIA in a sector or region.

## Department of Epidemiology

<http://www.sph.emory.edu/departments/epi/index.html>  
**Viola Vaccarino, MD, PhD, Chair**

The Department of Epidemiology offers courses of study leading to the Master of Public Health (MPH) and the Master of Science in Public Health (MSPH) degrees in epidemiology through the Rollins School of Public Health, and the Doctor of Philosophy (PhD) degree in epidemiology through the Laney Graduate School of Arts and Sciences of Emory University. The programs are designed for individuals with a strong background and interest in the sciences and mathematics. Graduates pursue careers in public health agencies, academic institutions, and in the private sector, including health organizations and industry.

### Areas of Research

The department provides outstanding opportunities for education and research. In addition to faculty interests in cancer, chronic and cardiovascular diseases, genetic and molecular epidemiology, epidemiologic methods, infectious diseases, nutritional epidemiology, reproductive health, social epidemiology, and women's and children's health, students can take advantage of the Department's close working relationship with the adjacent US Centers for Disease Control and Prevention by participating in collaborative research projects. Those interested in developing skills in cancer epidemiology will find opportunities with the Surveillance, Epidemiology, and End Results (SEER) Program, supported by the National Cancer Institute; the American Cancer Society, whose national headquarters are located in Atlanta; and the Winship Cancer Institute at Emory University. Research opportunities are available in other departments at RSPH, The Carter Center, the Georgia Division of Public Health, the Morehouse School of Medicine, the five large teaching hospitals affiliated with Emory University, and state and local health departments. These resources, as well as others in the clinical and basic science divisions of the Emory University School of Medicine, provide students with a wide range of study and research opportunities.

### Areas of Concentration

The Department offers required courses that focus on epidemiologic methods and analysis. This specialized knowledge allows students to apply their skills to any research or service area they choose. Students are free to choose, with advisement, electives that will allow informal concentrations in several areas of study, including: cancer, cardiovascular disease, infectious diseases, methods, genetic and molecular epidemiology, reproductive health, social epidemiology, and women's and children's health.

### MPH/MSPH Admission Requirements

Requirements for admission to the MPH and MSPH degree programs in epidemiology include a baccalaureate degree, completion of college-level science and math course work, and the Graduate Record Examination (GRE) or the Medical College Admissions Test (MCAT). At least one semester of calculus, statistics, and biology are preferred. Calculus is required for admissions to the MSPH degree program. Applications are evaluated on the basis of several criteria. The applicant's overall academic performance in his/her undergraduate/graduate programs is considered, with particular attention focused

on the applicant's science and math coursework. Previous work experience, letters of recommendation, scores on GRE or equivalent tests (especially quantitative parts), and the applicant's statement of purpose are also considered. If an applicant's academic transcripts do not document course work in mathematics, the applicant should provide a written summary of the course work and a brief description of the contents of the course(s). Reference letters should be sent from professors, supervisors, and mentors who have related knowledge and experience with the rigors of graduate study and who can speak to an applicant's ability to succeed in the program. Students are only admitted to matriculate in the fall semester.

### PhD Admission and Requirements

Prerequisites for the PhD degree include calculus, biology, and a competitive GRE score. Application information is available online at <http://www.gs.emory.edu/admissions/application.html/>. Applications and all supporting credentials must be received by December 1 for consideration for admission the following fall. Students are only admitted to matriculate in the fall semester. Please visit <https://www.sph.emory.edu/departments/epi/degree-programs/phd/index.html> for additional information.

### Epidemiology MPH/MSPH Program Degree Requirements

Students seeking an MPH are required to complete 42 semester hours, including a research thesis. The curriculum consists of core courses in public health and graduate courses in epidemiology and biostatistics. The MPH program requires a minimum of three or four semesters of study. The MSPH is a professional degree designed for those students who desire to acquire more in-depth skills in analytic methods. The MSPH curriculum consists of core courses in public health and advanced coursework in epidemiology and biostatistics. For this degree 48 semester hours and a minimum of four semesters of study are required. All students must create and present a scientific poster on their practicum or thesis while enrolled.

### Thesis

All MPH and MSPH students in the Department of Epidemiology complete a thesis as part of their requirements for graduation. It is a creative effort demonstrating the student's mastery of epidemiologic concepts and should be of a quality that is worthy of publication. The purpose of the thesis is to enable the student to develop skill in performing research in epidemiology and in presenting the results of such a study. Projects may be made available by the epidemiology faculty for student consideration, or students may develop their own project. In both cases, the project must be completed in consultation with the student's faculty thesis adviser. The faculty thesis adviser must approve the project before the project begins and must evaluate and grade the final thesis for graduation.

## Required Courses for the MPH Degree in Epidemiology

Course Number	Course Title	Credit Hours
<b>BSHE 500</b>	Behavioral and Social Sciences in Public Health	2
<b>EH 500</b>	Perspectives in Environmental Health	2
<b>HPM 500</b>	Introduction to the US Health Care System	2
<b>GH 500</b>	Critical Issues in Global Health	2
<b>Total Required Core Hours</b>		<b>8</b>
<b>EPI 530</b>	Epidemiologic Methods I with lab	4
<b>EPI 533</b>	Programming in SAS	1
<b>EPI 534</b>	Epidemiologic Methods II with lab	3
<b>BIOS 500</b>	Statistical Methods I with lab	4
<b>BIOS 591P</b>	Statistical Methods II with lab	3
<b>EPI 591U</b>	Application of Epidemiologic Concepts with lab	3
<b>EPI 595R</b>	Practicum	0
<b>EPI 599R</b>	Thesis	4
<b>EPI 740</b>	Epidemiologic Modeling	3
<b>Electives</b>		9
<b>Total for MPH degree in epidemiology</b>		<b>42</b>

## Required Courses for the MSPH Degree in Epidemiology

Course Number	Course Title	Credit Hours
<b>BSHE 500</b>	Behavioral and Social Sciences in Public Health	2
<b>GH 500</b>	Critical Issues in Global Health	2
<b>EPI/EHS 747</b>	Advanced Environmental Epidemiology	2
<b>HPM 500</b>	Introduction to the US Health Care System	2
<b>Total Required Core Hours</b>		<b>8</b>
<b>EPI 530</b>	Epidemiologic Methods I with lab	4
<b>EPI 533</b>	Programming in SAS	1
<b>EPI 534</b>	Epidemiologic Methods II with lab	3
<b>EPI 591U</b>	Applications of Epidemiologic Concepts	3
<b>EPI 538</b>	Advanced Epidemiologic Methods I	2
<b>EPI 595R</b>	Practicum	0
<b>EPI 599R</b>	Thesis	4
<b>EPI 740</b>	Epidemiologic Modeling	3
<b>EPI 750</b>	Analysis of Longitudinal Data	3
<b>BIOS 500</b>	Statistical Methods I with lab	4
<b>BIOS 591P</b>	Statistical Methods II with lab	3
<b>Electives</b>		10
<b>Total for MSPH degree in epidemiology:</b>		<b>48</b>

## Interdepartmental Programs

The Department of Epidemiology offers two interdepartmental programs. A joint MSPH degree is offered in **Environmental and Occupational Health and Epidemiology (EH-EPI)**. It also offers a joint MPH or MSPH degree in **Global Epidemiology** with the Hubert Department of Global Health.

For more information and specific course work, please refer to the Interdepartmental Programs section starting on page 200.

## Which Degree Program Should I Choose?

The four masters degree programs are distinct and it is important to understand which one best fits your needs. The following table details some of the major differences between the four programs. Competencies for each program are included earlier in the catalog.

	MPH in Epidemiology	MSPH in Epidemiology	MPH in Global Epidemiology	MSPH in Global Epidemiology
<b>Program Focus</b>	Service, Research	Research	Service, Research, with Global Focus	Research in Global Settings
<b>Credits Required</b>	42	48	42	48
<b>Elective Credits</b>	9	10	5–6	6–7
<b>Thesis?</b>	Required	Required	Required	Required
<b>Sample Key Skills</b>	Identify, collect, manage, analyze, interpret and report population-based data to drive control and prevention	Those for Epidemiology MPH plus additional abilities in advanced analytic epidemiologic methods for research	Identify, collect, manage, analyze, interpret and report population-based data to drive control and prevention in global settings	Those for Global Epidemiology MPH plus additional abilities in advanced analytic epidemiologic methods for research
<b>Sample Career Path</b>	Working in health department, federal agency, industry, research; continuing on in doctoral programs	As for Epidemiology MPH, plus work in research organizations that require advanced analytic skills for epidemiologic research	Working in health department, federal agency, WHO, CARE, industry, research; continuing on in doctoral programs,	As for Global Epidemiology MPH, plus work in international research organizations that require advanced analytic skills for epidemiologic research in global settings

Please visit <http://www.sph.emory.edu/departments/epi/degree-programs/index.html> for more information about degree requirements and course plans.

## Faculty

**Alvaro Alonso**, Associate Professor, MD, University of Navarra, 2000; MPH, National School of Health, 2002; PhD, University of Navarra, 2005. Cardiovascular epidemiology.

**Ruth L. Berkelman**, Rollins Professor. AB, Princeton University, 1973; MD, Harvard Medical School, 1977. Infectious diseases, emerging infections, surveillance.

**Robert M. Bostick**, Professor and Georgia Cancer Coalition Distinguished Scholar. BS, Wofford College, 1973; MD, Medical University of South Carolina, 1976; MPH, University of Minnesota, 1990. Cancer epidemiology, etiology and primary prevention of colon and prostate cancer, use of biomarkers of risk and molecular epidemiologic methods in observational studies and chemo-prevention trials.

**Allison Chamberlain**, Assistant Professor, BA, University of Virginia, 2004; MS, Georgetown University, 2007; PhD, Emory University, 2010. Infectious disease, emerging infections, surveillance.

**Lauren Christensen-Lindquist**, Research Assistant Professor, MPH, Emory University, 2009; PhD, 2015. Maternal Child Health, women's and children's health epidemiology.

**James W. Curran**, Professor and Dean. BS, University of Notre Dame, 1966; MD, University of Michigan, 1970; MPH, Harvard University, 1974. AIDS, emerging infectious diseases.

**Carolyn D. Drews-Botsch**, Associate Professor. BA, University of California-San Diego, 1981; MPH, University of California-Los Angeles, 1983; PhD, 1988. Reproductive and ophthalmic epidemiology, methods.

**Veronika Fedirko**, Assistant Professor. BSc, National University of Kyiv–Mohyla Academy, 2002; MPH, Emory University, 2005; PhD, 2009. Molecular biomarkers of carcinogenesis, including genetic, epigenetic, and metabolic biomarkers.

**W. Dana Flanders**, Professor. BS, University of Vermont, 1972; MA, Columbia University, 1974; MD, University of Vermont, 1977; MPH, Harvard University, 1979; DSc, 1982. Quantitative epidemiology, methods.

**Neel Gandhi**, Associate Professor. BA, Williams College, 1994; MD, Brown University, 1999. Concurrent epidemics of tuberculosis and HIV, with a particular interest in drug-resistant tuberculosis.

**Julie A. Gazmararian**, Associate Professor. MPH, University of South Carolina, 1985; PhD, University of Michigan, 1992. Health outcomes; health literacy; maternal and child health; domestic violence.

**Michael Goodman**, Professor. MD, Kaunas Medical Academy (Lithuania), 1984; MPH, The Johns Hopkins University, 1995. Cancer epidemiology; prostate cancer, breast cancer, lung cancer, respiratory and neurobehavioral outcomes in children.

**Jodie Guest**, Research Professor. PhD, MPH, Emory University, 1999; Co-founder of the HIV Atlanta VA Cohort Study (HAVACS) antiretroviral-induced lipid abnormalities, nephrotoxicity, inflammatory markers of endothelial cell activation, hepatitis c coinfection, MRSA, and food insecurity.

**Terry Hartman**, Professor. MS, Texas A&M University, 1985; PhD, University of Minnesota, 1995; MPH, Harvard University, 1996. Cancer prevention and control, dietary assessment and analysis.

**Carol J. R. Hogue**, Professor and Jules and Uldeen Terry Professor of Maternal and Child Health. AB, William Jewell College, 1966; MPH, University of North Carolina, 1971; PhD, 1973. Women's and children's health epidemiology, social epidemiology, reproductive health.

**Penelope P. Howards**, Associate Professor. BA, Dartmouth College, 1990; MS, Penn State University, 1994; PhD, University of North Carolina at Chapel Hill, 2004. Reproductive health, maternal and child health.

**Cecile Janssens**, Research Professor. MA, Utrecht University, 1996; MSc, Netherlands Institute of Health Sciences, 2001; PhD, Erasmus University, 2003. Public health genomics, prediction of complex diseases by genomic profiling and the evaluation of the usefulness of genetic testing.

**Samuel Jenness**, Assistant Professor. BA, Boston University, 2002; MPH, Boston University, 2005; PhD, University of Washington, 2015. Infectious disease, prevention and control of HIV and other STIs.

**Jeb Jones**, Research Assistant Professor. BS, Georgia State University, 2005; MPH, Emory University, 2012; PhD, Emory University, 2016. HIV/AIDS prevention, risk assessment, infectious disease dynamics.

**Vijaya Kancherla**, Research Assistant Professor. BHMS, University of Health Sciences, 2000; MS, Southern Illinois University, 2004; PhD, University of Iowa, 2010. Epidemiology and surveillance of birth defects.

**Michael Kramer**, Associate Professor. BA, Earlham College, 1991; MMSc, Emory University, 1997; MS, Alderson-Broadbent College, 2004; PhD, Emory University, 2009. Maternal and child health, social and spatial epidemiology.

**Timothy Lash**, Professor. BS, Massachusetts Institute of Technology, 1987; MPH, Boston University, 1992; DSc, Boston University, 1999. Epidemiologic methods and cancer prevention.

**Téné Lewis**, Associate Professor. MA, University of California, 1998; PhD, 2003. Psychosocial epidemiology and health disparities particularly as they apply to cardiometabolic diseases.

**Benjamin Lopman**, Associate Professor. BS, University of Florida, 1999; MSc, London School of Hygiene and Tropical Medicine, 2000; PhD, Open University/Health Protection Agency, 2004. Infectious disease, epidemiology of viral gastroenteritis.

**Michele Marcus**, Professor. BS, Brooklyn College, 1974; MPH, 1981; PhD, Columbia University, 1986. Reproductive, environmental, neuroepidemiology.

**Lauren McCullough**, Rollins Assistant Professor. BA, Vanderbilt University, 2005; MSPH, Meharry Medical College, 2007; PhD, University of North Carolina, 2013. Cancer pathophysiology, genetics, epigenetics and lifestyle factors.

**Godfrey P. Oakley Jr.**, Research Professor. MD, Bowman Gray School of Medicine, 1965; MSPH, University of Washington, 1972. Pediatric and perinatal epidemiology, with emphasis on birth defects, developmental disabilities, genetics.

**Bradley Pearce**, Research Associate Professor. BS, Florida State University, 1985; PhD, University of Miami, 1990. Schizophrenia heterogeneity and toxoplasma exposure, schizophrenia biomarkers, pathophysiological mechanisms of autism risk in patients.

**Eli Rosenberg**, Assistant Professor. BS, Cornell University, 2006; PhD, Emory University, 2012. Behavioral and social aspects of HIV transmission with particular focus on the MSM population, disease surveillance, statistical and network modeling.

**Travis Sanchez**, Research Associate Professor. DVM, University of Georgia, 1994; MPH, Emory University, 2000. Disease surveillance, HIV vaccine development, infectious disease.

**Amit Shah**, Assistant Professor. BA, Princeton University, 2002; MD, University of Pennsylvania, 2006; MSCR, Emory University, 2011. Cardio-vascular disease epidemiology.

**Aaron Siegler**, Research Assistant Professor. MHS, Johns Hopkins University, 2005; PhD, Emory University, 2012. Disease surveillance, HIV vaccine development, infectious disease.

**Anne C. Spaulding**, Associate Professor; ScB, Brown University, 1984; MD, Medical College of Virginia, 1989; MPH, The Johns Hopkins University, 2005. Infectious and chronic disease epidemiology in correctional and drug-using populations.

**Shakira Suglia**, Associate Professor. BS, University of Massachusetts, 1995; MS, University of Albany, 1997; ScD, Harvard University, 2006. Adolescent health, child health, chronic disease, social determinants of health.

**Patrick Sullivan**, Professor. BS, Emory University, 1988; DVM, University of Tennessee, 1992; PhD, University of Tennessee, 1994. Infectious disease, surveillance, animal models for infectious diseases, zoonotic diseases, HIV vaccine development.

**Yan V. Sun**, Research Assistant Scientist. BS, Peking University, 1996; PhD, Wayne State University, 2001; MS, 2003. Human genetics.

**Viola Vaccarino**, Professor and Chair. MD, Milan University Medical School, Italy, 1984; PhD, Yale University School of Medicine, 1994. Cardiovascular disease epidemiology.

**Kristin Wall**, Assistant Professor. BS, University of Texas, 2006; MS, University of Texas, 2008; PhD, Emory University, 2012. HIV/AIDS, cancer screening.

**Kevin Ward**, Research Assistant Professor. BIE, Georgia Institute of Technology, 1993; MPH, Emory University, 1998; PhD, 2008.

## Jointly Appointed Faculty

**Mohammed K Ali**, Assistant Professor. MBChB, University of Cape Town, 2003; MSc, University of Oxford, 2006; MSc, 2007; MBS, Emory University, 2012. Department of Global Health.

**Susan A. Allen**, Professor. BS, Duke University, 1980; MD, 1984; MPH, University of California, Berkeley, 1995. Emory University School of Medicine.

**Sara Auld**, Assistant Professor. BA, Stanford University, 2001; MD, Columbia University, 2007; MSCR, Emory University, 2007. Emory University School of Medicine.

**Robert Bednarczyk**, Assistant Professor. BS, Lebanon Valley College, 1993; MS, SUNY-Albany, 2006; PhD, 2010. Department of Global Health.

**Carla Berg**, Associate Professor. BA, Dakota Wesleyan University, 2001; MA, University of Kansas, 2003; PhD, University of Kansas, 2007. Department of Behavioral Sciences and Health Education.

**Henry M. Blumberg**, Associate Professor. BA, Washington University, 1979; MD, Vanderbilt University, 1983. Emory University School of Medicine.

**Otis W. Brawley**, Professor. BS, University of Chicago, 1981; MD, 1985. American Cancer Society.

**Kenneth Castro**, Professor. BS, University of Puerto Rico, 1974; MS, Northeastern University, 1976; MD, State University, MD 1980. Department of Global Health.

**Amy Y. Chen**, Associate Professor. BA, University of Texas, Austin, 1988; MPH, University of Texas, Houston, 1999; MD, Johns Hopkins University, 1992. Atlanta Veterans Affairs Medical Center and Emory University School of Medicine.

**Thomas Clasen**, Professor. JD, Georgetown University, 1981; MSc, London School, 2002; PhD, University of London, 2006. Department of Environmental Health.

**Hannah Cooper**, Associate Professor. BA, Yale University, 1993; SM, Harvard University, 1998; ScD, 2003. Department of Behavioral Sciences and Health Education.

**Carrie Cwiak**, Associate Professor, MPH, Emory University, 2003; MD, St. Louis University, 1997. Department of Gynecology & Obstetrics.

**Carlos Del Rio**, Hubert Professor and Chair. MD, Universidad La Salle, Mexico, 1983. Department of Global Health.

**Neal Dickert Jr.**, Assistant Professor. BA, Dartmouth College, 1997; PhD, Johns Hopkins University, 2006; MD, 2006. Emory University School of Medicine.

**Cristina Drenkard**, Assistant Professor. MD, Universidad Nacional de Rosario, Argentina, 1981; PhD, Universidad Nacional de Cordoba, Argentina, 2002. Emory University School of Medicine.

**Anne Dunlop**, Assistant Professor. MD, Mayo Medical School; MPH, Emory University. Emory University School of Medicine.

**John William Eley**, Associate Professor. BA, Emory University, 1979; MD, 1983; MPH, 1990. Emory University School of Medicine.

**Matthew Freeman**, Assistant Professor. BA, Wesleyan University, 2000; MPH, Emory University, 2005; PhD, London School of Hygiene and Tropical Medicine. Departments of Environmental Health and Global Health.

**Scott Fridkin**, Professor. MD, Loyola University. Emory University School of Medicine.

**Aimee Webb Girard**, Assistant Professor. BS, Mercer University, 1997; PhD, Emory University, 2006. Department of Global Health.

**Neela Goswami**, Assistant Professor. BS, Stanford University, 2002; MD, Johns Hopkins University, 2006; MPH, University of North Carolina, 2013. Emory University School of Medicine

**Abhinav Goyal**, Associate Professor. BS, Northwestern University, 1996; MHS, Duke University, 2006; MD, Northwestern University, 1999. Emory University School of medicine.

**Ellen L. Idler**, Professor. BA, College of Wooster, 1974; MA, Rutgers University, 1976; PhD, Yale University, 1985. Department of Sociology, Emory College.

**Jesse Jacob**, Assistant Professor. MD, University of South Florida, 2001; MBA, 2011; MSCR, Emory University, 2011. Emory University School of Medicine.

**Theodore Johnson**, Associate Professor. AB, Brown University, 1985; MD, Northwestern University, 1990; MPH, University of North Carolina, 1997. Emory University School of Medicine.

**Colleen Kelly**, Assistant Professor. MD, Emory University, 2004; MPH, 2004. Emory University School of Medicine.

**Amy Kirby**, Research Assistant Professor. BS, University of Georgia, 1997; PhD, The State University of New York, SUNY-Buffalo, 2003; MPH, Emory University, 2012. Department of Global Health.

**Uriel Kitron**, Professor. BSc, Hebrew University, 1975; PhD, University of California, 1981; MPH, University of Michigan, 1982. Department of Environmental Studies, Emory College.

**Mitchel Klein**, Research Assistant Professor. BA, State University of New York, 1979; MA, Indiana University, 1986; PhD, Emory University, 1998. Department of Environmental Health.

**Kelli Komro**, Professor. BA, University of Washington, 1987; MPH, University of Minnesota, 1991; PhD, University of Minnesota, 1994. Department of Behavioral Sciences and Health Education.

**Jeffrey P. Koplan**, Professor. BA, Yale University, 1966; MD, New York University, 1970; MPH, Harvard University, 1978. Emory University School of Medicine.

**Christian Larsen**, Professor, MD, Emory University, 1984, PhD University of Oxford, 1990; Emory University School of Medicine

**Juan S. Leon**, Assistant Professor. BA, Dartmouth College, 1996; MPH/PhD, Northwestern University, 2003. Department of Global Health.

**Karen Levy**, Assistant Professor. BA, Stanford University, 1995; MSc, University of California, Berkeley 2002; MPH, 2006; PhD, 2007. Department of Environmental Health.

**S. Sam Lim**, Associate Professor. BA, Duke University; MD, State University of New York at Brooklyn. Emory University School of Medicine.

**Michael Lindsay**, Assistant Professor. BS, Morehouse College, 1975; MD, Yale University, 1979; MPH, Emory University, 1991. Emory University School of Medicine.

**Scott J. N. McNabb**, Visiting Professor. BS, University of Oklahoma, 1972; MS, 1979; PhD, 1986. US Centers for Disease Control and Prevention.

**Ann C. Mertens**, Professor. BS, St. Louis University; MS, University of Minnesota; PhD, University of Minnesota. Emory University School of Medicine.

**Christine L. Moe**, Professor. BA, Swarthmore College, 1979; MS, University of North Carolina, 1984; PhD, 1989. Department of Global Health.

**Jennifer Mullé**, Assistant Professor. MHS, Johns Hopkins, 2000; PhD, 2005. Human genetics, genetic susceptibility variants that predispose for severe psychiatric illness.

**K.M. Venkat Narayan**, Professor. MBBS, St. Johns Medical College, 1980; MSc, University of Edinburgh, 1987; MFPHM, Royal College of Physicians, 1988; MBA, Herriot Watt University, 1995. Department of Global Health.

**Saad Omer**, Associate Professor. MBBS (MD), Aga Khan University, 1998; MPH, Johns Hopkins University, 2003, PhD, 2007. HIV, infectious disease, vaccines. Department of Global Health.

**Walter Orenstein**, Professor. BS, City College of New York, 1968; MD, Albert Einstein College of Medicine, 1972. Emory University School of Medicine

**Matthew Oster**, Assistant Professor. BS, Vanderbilt University, 1999; MD, University of Pennsylvania, 2004; Cardiovascular disease.

**Ruth Parker**, Professor. BS, Davidson College, 1977; MD, University of North Carolina, 1981. Emory University School of Medicine.

**Rachel Patzer**, Assistant Professor. MPH, Emory University, 2007; PhD, 2011. Emory University School of Medicine.

**Laura Plantinga**, Assistant Professor. ScM, Johns Hopkins University, 2002; PhD, Emory University, 2014. Divisions of Renal Medicine, Transplant, and Geriatrics, Emory University.

**Roger Rochat**, Research Professor. BA, University of Rochester, 1962; MD, University of Washington, 1966. Women's and children's health. Department of Global Health.

**Stephanie L. Sherman**, Professor. BS, North Carolina State University, 1971; PhD, Indiana University, 1981. Emory University School of Medicine.

**N. Kyle Steenland**, Professor. BA, Stanford University, 1968; MA, State University of New York, Buffalo, 1971; PhD, 1974; MS, University of Pennsylvania, 1981; PhD, 1985; MS, University of Cincinnati, 1989. Department of Environmental Health.

**Aryeh Stein**, Professor. BSc, Queen Elizabeth College, 1984; MPH, Columbia University, 1989; PhD, 1992. Department of Global Health.

**David S. Stephens**, Professor. BS, The Citadel, 1970; MD, Bowman Gray University, 1974. Emory University School of Medicine.

**Nancy Thompson**, Associate Professor. BA, Emory University, 1971; MPH, 1977; PhD, Georgia State University, 1988. Department of Behavioral Sciences and Health Education.

**Paige Tolbert**, Professor. BA, Harvard University, 1979; MSPH, University of North Carolina, 1986; PhD, 1989. Department of Environmental Health.

**Bryan Williams**, Associate Research Professor. BS, Virginia Polytechnic Institute and State University, 1988; MS, 1990; PhD, Pennsylvania State University, 1992. Emory University School of Medicine.

**Peter W. Wilson**, Professor. BS, Yale University, 1970; MD, University of Texas Medical School at San Antonio, 1974. Emory University School of Medicine.

**Inci Yindirim**, Assistant Professor. MD, Hacettepe University, 1999; MSc, Hacettepe University, 2007; PhD, Boston University, 2009. Emory University School of Medicine.

## Adjunct Faculty

**Fred Angulo**, Adjunct Assistant Professor. BS, University of San Francisco, 1978; MS, 1979; DVM, University of California, Davis, 1984; MPVM, 1984; PhD, University of California, Los Angeles, 1994. US Centers for Disease Control and Prevention.

**Issac Ashkenazi**, Adjunct Professor. MD, Hebrew University, 1982; MSc, Tel Aviv University, 1992; MPA, Harvard University, 2001; MNS, Haifa University. Harvard University.

**Hani Atrash**, Adjunct Associate Professor. MD, King Abdul-Aziz University, 1991; MMed, 2009. King Abdul-Aziz University.

**Scott Bartell**, Adjunct Professor. MS, University of Washington, 1996; MS, University of California, 2001; PhD, 2003. University of California, Irvine.

**Kyle Bernstein**, Adjunct Assistant Professor. MS, Johns Hopkins University, 1999; PhD, 2005. Centers for Disease Control and Prevention.

**Robert J. Berry**, Adjunct Professor. BS, University of Utah, 1968; MPHTM, Tulane, 1977; MD, Cornell, 1973. US Centers for Disease Control and Prevention.

**Dan Blumenthal**, Adjunct Professor. BS, Oberlin College, 1964; MD, University of Chicago, 1968; MPH, Emory University, 1986. Morehouse School of Medicine.

**Barret Bowling**, Adjunct Assistant Professor. M.D., University of North Carolina, 2006; M.S.P.H., University of Alabama at Birmingham, 2012. Atlanta VA Medical Center.

**Allison Brown**, Adjunct Assistant Professor. BA, University of Virginia, 1997; MPH, Yale University, 2004; PhD, The Johns Hopkins University, 2010. US Centers for Disease Control and Prevention.

**Beau Bruce**, Assistant Professor. MS, BS, Georgia Institute of Technology, 1998; MD, Emory University, 2002; MS, 2010; PhD, Emory University, 2014. US Centers for Disease Control and Prevention

**James W. Buehler**, Adjunct Professor. BA, University of California, Berkeley, 1973; MD, University of California, San Francisco, 1977.

**Peter Campbell**, Adjunct Assistant Professor. BPE, University of New Brunswick, 1997; MSc, York University, 2000; PhD, University of Toronto, 2006.

**Martin S. Cetron**, Adjunct Assistant Professor. AB, Dartmouth College, 1981; MD, Tufts University, 1985. US Centers for Disease Control and Prevention.

**Peter Cegielski**, Adjunct Associate Professor, BA, Harvard University, 1979; MD, University of California, 1984; MPH, 1995. US Centers for Disease Control and Prevention.

**Martin S. Cetron**, Adjunct Assistant Professor. AB, Dartmouth College, 1981; MD, Tufts University, 1985. US Centers for Disease Control and Prevention.

**Robert Chen**, Adjunct Professor. BS, University of Illinois, 1977; MA, University of Chicago, 1980; MD, 1982. US Centers for Disease Control and Prevention.

**Rohit Chitale**, Adjunct Assistant Professor. BA, University of Maryland, 1993; MPH, University of California, 1996; PhD, Johns Hopkins University, 2006.

**Kira Christian**, Adjunct Assistant Professor. BA, Michigan State University, 1996; MPH, University of Illinois at Chicago, 2001; DVM, Michigan State University, 2005.

**Susan Cookson**, Adjunct Associate Professor. BS, Duke University, 1975; MD, University of North Carolina at Chapel Hill, 1985; MPH, Emory University, 2003. US Centers for Disease Control and Prevention.

**Adolfo Correa**, Adjunct Professor. BS, San Diego State University, 1969; MS, University of California, San Diego, 1970; MD, 1974; MPH, Johns Hopkins University, 1981; PhD, 1987. US Centers for Disease Control and Prevention. The University of Mississippi Medical Center.

**Steve Coughlin**, Adjunct Associate Professor. BS, University of Nevada, 1978; MPH, 1984; PhD, Johns Hopkins University, 1987. US Centers for Disease Control and Prevention.

**Andrew Dannenberg**, Adjunct Professor. AB, Swarthmore College, 1974; MD, Stanford University, 1979; MPH, Johns Hopkins University, 1983. US Centers for Disease Control and Prevention.

**Ivo Foppa**, Adjunct Associate Professor. DrMed, University of Bern, 1991; MS, Harvard University, 1995; DSc, Harvard University, 2001. US Centers for Disease Control and Prevention.

**LeAnne Fox**, Adjunct Associate Professor. MPH, Johns Hopkins University, 1995; MD, University of Connecticut, 1998; DTM&H, The London School of Tropical Hygiene, 2006. US Centers for Disease Control and Prevention.

**Susan Gapstur**, Adjunct Professor. BS, University of Wisconsin, La Crosse, 1983; MPH, University of Minnesota School of Public Health, 1989; PhD, 1993. American Cancer Society.

**Katherine Gass**, Adjunct Assistant Professor. BA, Oberlin College; MPH, Emory University; PhD, Emory University. Task Force for Global Health.

**Mia Gaudet**, Adjunct Assistant Professor. MSPH, University of North Carolina, 2001; PhD, 2005. American Cancer Society.

**Karen Glanz**, Adjunct Professor and Georgia Cancer Coalition Distinguished Research Scholar. BA, University of Michigan, 1974; MPH, 1977; PhD, 1979. University of Pennsylvania.

**Stefan Goldberg**, Adjunct Instructor. BA, Columbia College, 1977; MD, University of Colorado, 1981. US Centers for Disease Control and Prevention.

**Neela Goswami**, Adjunct Assistant Professor. BS, Stanford University, 2002; MD, Johns Hopkins University, 2006; MPH, University of North Carolina, 2013. US Centers for Disease Control and Prevention.

**L. Hannah Gould**, Adjunct Professor. BS, University of Texas, 1996; MS, University of California, 2000; PhD, Yale University, 2005. US Centers for Disease Control and Prevention.

**Marta Gwinn**, Adjunct Associate Professor. BA, University of Louisville, 1977; MD, Vanderbilt University, 1981; MPH, University of North Carolina at Chapel Hill, 1988.

**Idris Guessous**, Adjunct Assistant Professor. PhD, Emory University, 2014. Geneva University Hospital, Geneva, Switzerland.

**Xuesong Han**, Adjunct Professor. MS, Tsinghua University, 2004; PhD, Yale University, 2010. US Centers for Disease Control and Prevention.

**Andreas Handel**, Adjunct Assistant Professor. PhD, Georgia Institute of Technology, 2004. University of Georgia.

**James Heffelfinger**, Adjunct Associate Professor. MD, New York Medical College, 1989; MPH, University of Washington, 2001. US Centers for Disease Control and Prevention.

**Alan R. Hinman**, Adjunct Professor. BA, Cornell University, 1957; MD, Case Western Reserve University, 1961. US Centers for Disease Control and Prevention.

**Yuling Hong**, Adjunct Professor. BM, Shanghai Medical University, China, 1987; MS, Erasmus University (Holland), 1993; PhD, Karolinska Institute (Sweden), 1997. US Centers for Disease Control and Prevention.

**John M. Horan**, Adjunct Professor. BA, College of the Holy Cross, 1970; MD, State University of New York, Upstate Medical Center, 1974; MPH, Johns Hopkins University, 1984. Georgia Department of Human Resources.

**Dale J. Hu Jr.**, Adjunct Associate Professor. BA, Stanford University, 1983; MD, University of California at San Diego, 1987; MPH, Johns Hopkins University, 1989. US Centers for Disease Control and Prevention.

**Michael Iademarco**, Adjunct Professor. MD, University of Michigan, 1986; MPH, St. Louis University, 1998. Centers for Disease Control and Prevention.

**A. Danielle Iuliano**, Adjunct Assistant Professor. BA, Emory University, 2000; MPH, Emory University, 2002; PhD, University of Pittsburgh, 2008. US Centers for Disease Control and Prevention.

**Eric Jacobs**, Adjunct Associate Professor. BA, University of Chicago, 1989; MS/PhD, University of Washington, 1993.

**Sherman James**, Adjunct Professor. AB, Talladega College, 1964; PhD, Washington University, 1973.

**Ahmedin Jemal**, Adjunct Assistant Professor. DVM, Addis Ababa University, 1986; MS, Louisiana State University, 1993; PhD, 1997. American Cancer Society.

**Muin J. Khoury**, Adjunct Professor. BS, American University of Beirut, 1975; MD, 1979; PhD, Johns Hopkins University, 1985. US Centers for Disease Control and Prevention.

**Jean Ko**, Adjunct Associate Professor. BS, Emory University, 2004; PhD, Johns Hopkins University, 2010. US Centers for Disease Control and Prevention.

**Denise Koo**, Adjunct Professor. BA, Harvard University, 1984; MPH, University of California at Berkeley, 1988; MD, University of California at San Francisco, 1989. US Centers for Disease Control and Prevention.

**Michael Lynch**, Adjunct Assistant Professor. BS, Georgetown University, 1985; MD, Tufts University, 1989; MPH, Harvard University, 2000.

**Matthew Magee**, Adjunct Assistant Professor. MPH, University of Illinois, 2006; PhD, Emory University, 2013. Georgia State University.

**Mildred Maisonet**, Lecturer. BS, University of Puerto Rico, 1987; MS, 1991; PhD, Johns Hopkins University, 2001. University of Oulu.

**Marjorie L. McCullough**, Adjunct Associate Professor. BS, Michigan State University, 1983; MS, MGH Institute of Health Professions, 1986; ScD, Harvard University, 1999. American Cancer Society.

**A. D. McNaghten**, Research Associate Professor. BS, Ohio University, 1988; MHSA, 1990; PhD, 1994. Disease surveillance, global health, HIV vaccine development, infectious disease.

**S. Muazzam Nasrullah**, Adjunct Assistant Professor. BS, University of the Punjab (Pakistan), 1998; MS, Karolinska Institute (Sweden), 2004.

**Alpa V. Patel**, Adjunct Assistant Professor. BS, University of Florida, 1996; MPH, Emory University, 1997; PhD, University of Southern California, 2003. American Cancer Society.

**Gabriela Paz-Bailey**, Adjunct Assistant Professor. MD, University of San Carlos; PhD, London School of Hygiene and Tropical Medicine. UNC Institute for Global Health & Infectious Disease

**Carrie Reed**, Adjunct Assistant Professor. BS, University of Arizona, 2001; MPH, Boston University, 2003; DSc, Boston University, 2007. US Centers for Disease Control and Prevention.

**Richard Rothenberg**, Adjunct Professor. BA, Columbia University, 1962; MD, Harvard University, 1966; MPH, 1973. Georgia State University Public Health Institute.

**Alexander K. Rowe**, Adjunct Assistant Professor; BS, Cornell University, 1987; MD, 1992; MPH, Emory University, 1997. US Centers for Disease Control and Prevention.

**Salaam Semaan**, Adjunct Associate Professor. BS, American University of Beirut, Lebanon, 1980; MPH, 1982; MD, Johns Hopkins University, 1990. US Centers for Disease Control and Prevention.

**Sarita Shah**, Adjunct Associate Professor. BA, Johns Hopkins University, 1996; MD, Johns Hopkins University, 2000; MPH, Columbia University, 2004. US Centers for Disease Control and Prevention.

**David Shay**, Adjunct Associate Professor. BA, Duke University, 1984; MD, University of Cincinnati, 1989; MPH, University of Washington, 1997. US Centers for Disease Control and Prevention.

**Hylan Shoob**, Adjunct Assistant Professor. BA, Emory University, 1991; BS, Augusta State University, 1993; MSPH, University of South Carolina, 1996; PhD, 1999. US Centers for Disease Control and Prevention.

**Edgar Simard**, Adjunct Assistant Professor. BS, Southern Connecticut State University, 1999; MPH, Emory University, 2004; PhD, State University of New Jersey. American Cancer Society.

**Robert A. Smith**, Adjunct Professor. BA, University of Georgia, 1973; MA, 1975; PhD, State University of New York, Stony Brook, 1984. American Cancer Society.

**J. Michael Soucie**, Adjunct Assistant Professor. BS, Ohio State University, 1971; BMedS, Emory University, 1980; MPH, 1988; PhD, 1994. US Centers for Disease Control and Prevention.

**Rob Stephenson**, Adjunct Professor. BSc, University of Southampton, 1995; MSc London School of Hygiene and Tropical Medicine, 1996; PhD University of Southampton, 1999. University of Michigan.

**Matthew Strickland**, Adjunct Associate Professor. BA, Case Western Reserve University; MPH, Ohio State University, 2002; PhD, Emory University, 2007. University of Nevada.

**Shaoyong Su**, Research Assistant Professor. BS, Beijing Normal University, 2000; PhD, Peking Union Medical College and Chinese Academy of Medical Sciences, 2005. Medical College of Georgia.

**David Swerdlow**, Clinical Assistant Professor. BA, University of California, 1981; MD, Harvard University, 1986. US Centers for Disease Control and Prevention.

**Fred C. Tenover**, Adjunct Professor. BS, University of Dayton, 1976; MS/PhD, University of Rochester, 1980. US Centers for Disease Control and Prevention.

**Kathleen E. Toomey**, Adjunct Associate Professor. AB, Smith College, 1973; MPH, Harvard University, 1979, MD, 1979. US Centers for Disease Control and Prevention.

**Andrew A. Vernon**, Adjunct Associate Professor. AB, Harvard University, 1971; MD, 1975; MHS, Johns Hopkins University, 1987. US Centers for Disease Control and Prevention.

**Andrew Voetsch**, Adjunct Assistant Professor. BA, Emory University, 1993; MPH, 1995; PhD, University of North Carolina, 2005. US Centers for Disease Control and Prevention.

**Verna Welch**, Adjunct Associate Professor. BS, Clark Atlanta University, 1992; MPH, Emory University, 1995; PhD, University of North Carolina at Chapel Hill, 1998. Emory University Health Policy and Management.

**Andrea Winquist**, Assistant Professor. MD, Northwestern University, 1993; PhD, Emory University, 2009. US Centers for Disease Control and Prevention.

**Carla A. Winston**, Adjunct Assistant Professor. BA/MA, Stanford University, 1994; PhD, Emory University, 2003. US Centers for Disease Control and Prevention.

**Frank Y. Yuan Wong**, Associate Professor. BA, University of Guelph, 1981; PhD, Texas A&M University, 1990. University of Hawaii.



## Epidemiology Course Descriptions

### EPI 504 (2) Fundamentals of Epidemiology

Spring. Non-EPI students only. Emphasizes the underlying concepts of the epidemiological approach, stressing study design. Discusses the calculation and interpretation of measures of frequency, association, and public health impact. Discusses sources of study error including the influence of chance, bias, confounding, and effect modification. Introduces basic concepts of standardizing rates, surveillance, and screening.

### EPI 508R (1) Maternal and Child Health Leadership Collaborative Seminar

Fall. Prerequisite: EPI/GH/BSHE/HPM 596, students enrolled in the MCH certificate only or instructor permission. Credit received upon successful completion of both semesters. The Leadership Collaborative Seminar will provide a monthly interdisciplinary forum focused on building the necessary attitudes and relationships to prepare the next generation of health leaders to provide and promote coordinated, comprehensive, culturally competent care, programs, and policies for diverse MCH populations. The course will include ten 3-hour sessions over two semesters. Sessions will feature structured interviews with emerging MCH leaders, didactic content, problem-based learning on advancing health equity, opportunities for self-reflection, and group discussion – all with the goal of assisting participants in integration of learning across program curricula. The seminar series will also include presentations and interactions with prominent leaders in public health, health care, and human services. Learners will complete background readings as well as independent learning activities and directed opportunities for self-reflection in preparation for each session.

### EPI 509 (2) Overview of Children with Special Health Care Needs

Spring. Prerequisite: EPI/GH/BSHE/HPM 596, students enrolled in the MCH certificate only or instructor permission. This course will provide a one-semester overview of children with special health care needs and their families, including neurodevelopmental disabilities, to prepare learners to include the population in public health program planning, implementation, evaluation, and research. The course will be presented in a hybrid format with in-person and web-delivered didactic presentations, project-based learning, and field-based experiences. During weeks that the course does not meet in person, students will be responsible for completing and responding to assigned online learning modules that are currently being developed by a consortium of Leadership Education in Neurodevelopmental Disabilities (LEND) programs. Online content will be reviewed in the subsequent in-person session.

### EPI 510 (1) Introduction to Genetic and Molecular Epidemiology

Fall. This course will introduce basic principles of genetic and molecular epidemiology through interactive discussion with leading researchers in the field. This is a stand-alone course but is also a prerequisite for the Genetic and Molecular Epidemiology Certificate Program.

### EPI 515 (3) Introduction to Transforming Public Health Surveillance

Spring. Prerequisite: EPI 504 or EPI 530. Teaches the basic principles of public health surveillance, including the establishment of a public health surveillance program, the collation and analysis of data, and the preparation and distribution of a report. Helps students to recognize the importance of a direct association between a public health surveillance program and public health action. Helps students

become familiar with the use of computers in public health surveillance, with public health surveillance systems conducted in developed, as well as developing countries, and with public health surveillance programs as applied to all public health problems involving either infectious or noninfectious diseases. Cross-listed with GH 515.

### EPI 516 (2) Issues in Women's Health

Fall, even years. Prerequisite: EPI 504 or EPI 530; BIOS 500. Presents issues in women's health that are a biological function of being female, but not pathologies of reproduction. These include cardiovascular disease, osteoporosis, and breast and cervical cancer. Addresses health problems related to the physiological and psychological aspects of being female. These include depression, premenstrual syndrome, addictive behavior, and violence perpetrated by and against women.

### EPI 518 (2) Practical Introduction to Survey Design

Spring, not offered every year. This short course is a practical introduction to survey research, seeking to provide students with hands-on skills to develop and implement electronic surveys. In the course, students will work in teams to develop and launch a survey, with the following phases: item development, item cognitive assessment, electronic survey programming, survey recruitment on Facebook (each team will have a recruitment budget), collection of survey data from online participants, and presentation of survey results. The course focus is predominantly on electronic survey provision, including web-based implementations. Other areas of emphasis include item creation, item optimization through qualitative techniques, sources of survey error, and strategies to mitigate survey error.

### EPI 523 (1) Correctional Healthcare

Spring. Pre-requisite: EPI 530 or EPI 504 and BIOS 500, or instructor permission. Ten million persons pass through a jail or prison each year in the United States. This half-semester, seminar-style course explores the possible impact of the criminal justice system on the epidemiology of infectious diseases and on health indicators in general. The correctional setting will be used as a case study to illustrate how environment, public policy, behavior and biology all interact to determine the well-being of a population. Lessons learned from studying correctional health are applicable to understanding the determinants of health for other institutionalized populations and in other controlled settings. We will make a field trip to a local correctional facility.

### EPI 530 (4) Epidemiologic Methods I with Lab

Fall. Prerequisite/concurrent: BIOS 500. Required for epidemiology majors. Emphasizes the concepts and premises of the science of epidemiology. Stresses methods of hypothesis formulation and evaluation. Introduces techniques for quantifying the amount of disease (or other health indicator) in populations, followed by discussion of epidemiologic study designs useful for identifying etiologic factors and other relevant correlates of disease. Students gain facility with the calculation of basic epidemiologic measures of frequency, association, and impact. The concepts of random variability, bias, and effect modification are examined in detail. The use of stratified analysis, including Mantel-Haenszel techniques, is explored. Inferences from study results are discussed. Students are required to analyze and critique studies from the current medical and scientific literature.

**EPI 533 (1) Programming in SAS**

Fall, Spring. Permission only in fall semester. Required for epidemiology majors. This is an applied computer analytic course utilizing a database to cover univariate analysis—frequencies, cross-tabs, stratification, and multivariate analysis, logistic regression.

**EPI 534 (3) Epidemiologic Methods II with Lab**

Spring. Prerequisites: EPI 530, BIOS 500, and BIOS 501 or 591P (BIOS 501 may be taken concurrently). This course emphasizes the statistical foundations of epidemiological methods, as well as the appropriate statistical methods for cohort, case-control, and cross-sectional studies. The concepts of matching, confounding, and interaction are further developed. This course also presents an introduction to epidemiologic modeling using logistic regression for matched and unmatched studies. Students will learn to perform analyses using SAS.

**EPI 535 (2) Field Epidemiology**

Spring. Prerequisite: EPI 530. Uses a series of case studies to teach the principles and practice of epidemiology, ranging from surveillance and descriptive epidemiology to outbreak investigations and analytic methods. Focuses on the use of sound epidemiological judgment. Cross-listed with GH 535.

**EPI 536 (2) Applied Data Analysis**

Fall. Prerequisites: EPI 504 or EPI 530, BIOS 500. The purpose of this course is to prepare the student for analysis of epidemiologic data from various study designs including cross-sectional, case-control, and follow-up studies. The student will have the opportunity to apply the methods taught in the epidemiology methods sequence to actual data sets. After completion of the course, the student will be prepared to do the data analysis for their thesis. The course will use the statistical program, Stata, for all analyses and therefore some time will be spent in learning the fundamentals of Stata. We will analyze multiple data sets and apply epidemiologic and statistical methods such as exact tests for 2x2 tables, stratified analysis, logistic regression, and survival techniques appropriate for epidemiologists. The course will be applied and will emphasize the use of Stata to solve various epidemiologic problems using a wide range of data sets.

**EPI 537 (2) Epidemiology of Chronic Disease**

Fall. Prerequisite/concurrent: EPI 530. Emphasizes the distribution and determinants of chronic disease within the population. Research design and analysis are not the primary focus of the course, but methodological issues are considered when pertinent to the interpretation of findings.

**EPI 538/738 (2) Advanced Epidemiologic Methods I**

Spring. Prerequisites: EPI 530, EPI 534, BIOS 500, BIOS 501 or BIOS 591P (EPI 534 and BIOS 501 may be taken concurrently with permission). Covers a wide variety of topics in epidemiological methodology. Topics include basic epidemiological measures, confounding, misclassification, selection bias, types of case-control studies, Berkson's bias, matching, and estimation of epidemiological parameters.

**EPI 540 (2) Case Studies in Infectious Disease**

Fall. Prerequisites/concurrent: EPI 504 or EPI 530 and BIOS 500 or permission of instructor. Provides training in the investigation, control, and prevention of infectious diseases by both descriptive and analytic epidemiological techniques. Students work with infectious diseases of national and international interest. Cross-listed with GH 517.

**EPI 541 (2) Hospital/Healthcare Epidemiology**

Spring. Prerequisites/concurrent: EPI 504 or EPI 530 and BIOS 500. This course provides training in the investigation, control, and prevention of hospital-acquired infectious diseases and other hospital events by the use of appropriate epidemiologic techniques, both descriptive and analytic.

**EPI 542 (1) Tuberculosis: A Re-emerging Health Problem**

Spring. Prerequisite: EPI 504 or EPI 530. Provides training in the domestic and international public health aspects of tuberculosis, its epidemiology and diagnosis, the theory and practice of treatment and the means of prevention in developed and developing countries, and the interaction between HIV and tuberculosis. Cross-listed with GH 562.

**EPI 544 (1) Epidemiology of Foodborne and Diarrheal Diseases**

Fall. Prerequisite/concurrent: EPI 504 or EPI 530. Covers the basic epidemiology of infectious foodborne and diarrheal diseases of the United States and the world. Uses the study of these diseases and outbreak investigations to develop broadly applicable epidemiologic skills. Explores dynamic relationship between changing global environment and human health—evolving and emerging pathogens, changes in food production and distribution, and changes in the human population.

**EPI 546 (2) Methods in HIV Epidemiology**

Spring. Prerequisites: EPI 530 and BIOS 500, or instructor permission. Explores the epidemiology of the HIV epidemic in the United States through a detailed examination of the major types of epidemiologic studies that have led to our current understanding of the epidemic. Students gain an understanding of important issues in the epidemiology of HIV in the United States, and, as importantly, increase their understanding of the strengths and weaknesses of various epidemiologic study designs and the interpretation of data from such studies.

**EPI 547 (2) Public Health Applications of Molecular Epidemiology**

Spring, odd years. Prerequisite: EPI 530 and knowledge of DNA and RNA. Molecular epidemiology encompasses topics beyond the recent era of “-omics.” Biospecimens have been analyzed to evaluate exposures and health states for decades. We will discuss a range of public health applications of molecular epidemiology. For each, we will review the biospecimen and analyze, how the biospecimen is collected and analyzed, and how the results are used, or may be used, to protect or improve public health. Examples of topics we will study include (a) cholesterol & triglycerides associated with heart disease, (b) blood alcohol & breathalyzer associated with injury, (c) illicit drug screening and employment, and (d) serum  $\delta^{13}C$  as a marker of dietary sweets intake.

**EPI 550 (2) Epidemiology and Dynamics of STD and HIV Transmission**

Fall. Prerequisite/concurrent: EPI 504 or EPI 530. Explores the social, biologic, and public health issues of sexually transmitted diseases and their overall importance in public health. Topics include the basic biology and epidemiology of the major STDs, the implication of transmission models for prevention, and the psychosocial, behavioral, and economic aspects of STD/ HIV. Cross-listed with GH 550.

**EPI 552 (2) Human Genome Epidemiology**

Spring. This introductory course will expose students to a range of topics that illustrate the use of epidemiologic methods to analyze and interpret genomic information at the population level through a combination of lectures, weekly reading assignments, and

student-led case studies. At the end of the course participants should be able to identify the types of data needed to translate genetic discoveries for medicine and public health and be able to review and evaluate such data in the scientific literature.

**EPI 553 (2) Writing and Presenting Epidemiologic Research**

Fall. Pre-requisites: EPI 530, BIOS 500 and EPI 534 or instructor permission. The primary objective of this course is to develop skills in planning, writing, and presenting epidemiologic information in scientific reports, journal manuscripts, scientific conference posters and oral presentations, and MPH theses or PhD dissertations.

**EPI 554 (3) Religion and Public Health**

Fall. May not be offered every year. This course will provide graduate students and advanced undergraduate students with a sociologically oriented interdisciplinary survey of research on the intersection of public health and religious practices and beliefs, in individuals and populations. Religion is one factor among many others in the social environment that to some extent determines the health of populations. Religion also has a role in the organization and practice of medicine and public health, in the lives of individuals, their families and social networks, health professionals, and the institutions in which they interact. The course will emphasize evidence from quantitative social science and epidemiology, the role of religion in the historical development of public health institutions, and the theoretical social science origins of religion and health research. Under the large umbrella of religion and health research, we will be attempting to map the part of the field that is distinctively oriented to public health, rather than to medicine

**EPI 556 (2) Applied Genomic Epidemiology**

Fall. Prerequisites: BIOS 500 and EPI 552 or instructor permission, Knowledge of R is preferred. Genomic epidemiology is an increasingly important approach to studying disease risks in populations. This course will introduce the basic genetic principles as they apply to the identification of genetic variations associated with disease; illustrate the population and quantitative genetic concepts that are necessary to study the relationship between genetic variation and disease variation in populations; and provide hands-on experience to address the analytical needs for conducting genomic epidemiologic research. Students will gain experience with R and PLINK using high dimensional genetic data.

**EPI 558 (2) Global Issues in Antimicrobial Resistance**

Spring. Develops tools to understand the microbiological, behavioral, and economic factors that contribute to the expanding epidemic of infectious diseases that may become untreatable due to the emergence of resistance. Provides a framework for intervention studies. Cross-listed with GH 558.

**EPI 560 (2) Cardiovascular Disease Epidemiology**

Spring. Prerequisite: EPI 504, or EPI 530. Emphasizes the distribution and determinants of cardiovascular disease within the population. Research design and analysis are not the primary focus of the course, but methodological issues are considered when pertinent to findings interpretation.

**EPI 562 (2) Emerging Infectious Diseases**

Spring. Prerequisite/concurrent: EPI 504 or EPI 530 or permission of instructor. Previous course work in microbiology strongly preferred. Examines factors that

contribute to the emergence and re-emergence of infectious diseases, and provides a framework for assessing the public health threat from infectious diseases and for recommending an appropriate response. Fundamental principles of infectious disease surveillance and epidemiology, as well as pathogenesis, are addressed. Cross-listed with GH 518.

**EPI 564 (2) Public Health Preparedness and Bioterrorism**

Fall. Acquaints students with major topics associated with past and potential future acts of bioterrorism. Includes familiarity with disease agents and their pathology, epidemiology, and means of dispersion. Students become knowledgeable in the key elements of planning the response to bioterrorism at all functioning levels of public health. Cross-listed with GH 564

**EPI 565 (2) Data Sources and Methods in MCH Epidemiology: An Introductory Course in Applied MCH Epidemiology**

Spring. Prerequisites: EPI 530 and BIOS 500. Introduces students to data sources and methods commonly used by epidemiologists in state or provincial health departments. Data sources include websites, census, vital statistics, and surveys (PRAMS). Methods include record linkage, questionnaire design, mapping, trend analysis, perinatal periods of risk, cluster investigation, small number analysis, and secondary data analysis.

**EPI 566 (2) Immunization Programs and Policies**

Spring. Provides an introduction to the entire spectrum of vaccines and immunization: from basic bench research through testing, licensure, and use; program design, implementation, and evaluation; and social, economic, and political factors affecting the use of vaccines. Emphasizes the international setting, though examples are also taken from developed countries. Cross-listed with GH 566.

**EPI 567 (2) Epidemiology of Aging Populations**

Spring. This course introduces the student to the epidemiology of aging populations, including distributions of and trends in chronic disease morbidity and multimorbidity; non-disease specific issues in aging, such as functional disability and mortality. The course will focus on methods for epidemiologic research in aging population, which will be reinforced through weekly readings and group discussions of relevant literature.

**EPI 568 (2) Bias Analysis**

Fall. Pre-requisites: EPI 530, EPI 534 and EPI 591U or instructor permission. Observational epidemiologic studies yield estimates of effect that differ from the true effect because of random error and systematic error. Epidemiologists design studies and analyses to minimize both sources of error. When presenting results, epidemiologists use statistics to quantify the impact of random error on estimates of effect, but often only qualitatively describe residual systematic error (uncontrolled bias). Bias analysis provides one method of quantifying residual systematic error. Students in this course will learn how to use simple, multidimensional, and probabilistic bias analyses to account for systematic error in their estimates of effect. Students should expect to gain new skills, as the emphasis of the course will be on the implementation and conduct of bias analysis, rather than statistical theory.

**EPI 584 (2) Epidemiology of Cancer**

Fall. Prerequisite: EPI 504 or EPI 530 or permission of the instructor. The primary objective of this course is for the student to gain basic knowledge about cancer and

issues and methodologies relevant to investigating cancer etiology, prevention, and control using epidemiologic methods. Secondary objectives are for the student to gain experiences in critiquing published cancer epidemiology articles and conducting a literature review and writing a summary of a topic in cancer epidemiology.

**EPI 585 (2) Advanced Topics in Cancer Epidemiology**

Spring. Pre-requisites: EPI 584 or instructor permission. The primary objective of this course is for the student to gain comprehensive knowledge about cancer and methodologies and current issues central to cancer epidemiology. It is assumed that students enrolled in the course have successfully completed introductory courses in epidemiology as well as an introductory course in cancer epidemiology (EPI 743 “The Epidemiology of Cancer” or have comparable background in cancer and/or in the epidemiology of chronic diseases). The course builds on knowledge gained in other courses (including EPI 743) and covers the biological basis of carcinogenesis and its implications for epidemiologic research, an integrated view of current issues central to cancer epidemiology, an in-depth examination of methodological issues relevant to cancer research, and integration of knowledge across cancer sites. Secondary objectives are for the student to gain experiences in critiquing published cancer epidemiology articles and writing a short proposal on a topic related to current issues in cancer epidemiology.

**EPI 589 Psychosocial Epidemiology**

Spring. Pre-requisites: EPI 504 or EPI 530. Epidemiology is the study of the distribution and determinants of disease. Psychosocial Epidemiology is a growing subfield of Epidemiology that examines how psychological and social factors influence physical health and disease in human populations. Because the field of Psychosocial Epidemiology is heavily influenced by observational data, the concepts of confounding, mediation and effect modification will be emphasized throughout the course. Class sessions will consist of presentations by the professor; interactive discussions about key topics, assigned readings and in-class assignments; viewing and discussion of educational DVDs; and student presentations.

**EPI 590R (1–2) Epidemiology Seminar**

Fall or Spring, not offered every year. Various topics by Epi faculty.

**EPI 591L (2) Methods in Nutritional Epidemiology**

Fall. Pre-requisites: EPI 530, EPI 533 or instructor permission. This course is designed for students interested in studies of diet and health outcomes. The course provides an overview of methods for estimating dietary intakes. Issues related to the collections, processing, analysis and manipulation of dietary data in relation to foods dietary patterns, nutrients, and dietary supplements will also be addressed. Students will also have the opportunity to apply methods for manipulating dietary data including variation in diet, comparing methods for energy adjustment, manipulating raw data to create food grouping variables for dietary pattern analysis and calculating a dietary score.

**EPI 591S (2) Social Epidemiology**

Fall, Spring. Prerequisites: EPI 504 or EPI 530. This course will focus on the contribution of social factors to health and disease in human populations. With an emphasis on both theory and methods, seven topics of contemporary interest to public health research will be covered in depth: (1) social status; (2) race, ethnicity and racism; (3) geography/place; (4) immigration; (5) health literacy; (6) stress; and (7) social support.

**EPI 591U (3) Application of Epidemiologic Concepts with Lab**

Spring. Prerequisites: EPI 530, BIOS 500, EPI 533 EPI 534 and BIOS 591P concurrently. Provides a conceptual overview of causality, bias (including confounding, information bias, and selection bias), and effect measure modification. A semester-long lab project illustrates how these topics are addressed analytically and through study design. This course is required for Epidemiology and Global Epidemiology students.

**EPI 594 (2) Methods in Advanced Social Epidemiology**

Spring. Pre-requisites: INFO 530 or INFO 532, EPI 740, and EPI 591S or BSHE 535 or instructor permission. This advanced graduate course is a blended seminar and lab format introducing students to some of the challenges of quantitative research in modern social epidemiology. With a focus on application, the course explores the intersection of social epidemiologic theory and quantitative methods for better understanding multilevel causal mechanisms, complex social selection and confounding, and the spatial patterning of exposures, covariates and health outcomes.

**EPI 595R (0) Practicum**

Fall, Spring, Summer. Enables students to apply skills and knowledge through supervised field training experience in a public health setting complementing interests and career goals.

**EPI 596 (3) Foundation in Maternal and Child Health**

Spring. This is the foundational course for the Maternal and Child Health Certificate and is limited to MCH certificate students. It covers historical and theoretical underpinnings of maternal and child health problems and programs aimed to reduce morbidity, mortality, and health disparities. Skills in program planning and evaluation are taught through multidisciplinary teams working with academic and field-based faculty in local, state, federal, and nongovernmental agencies. Maternal and child health is defined as a field of public health that addresses underlying forces for these problems, the historical framework for ameliorating those problems, and current programs and policies that have evolved from that historical context. Maternal and child health programs are unique to reproduction and life course development; more common in women, infants, children, or adolescents; more serious in women, infants, children, or adolescents; or have manifestations, risk factors, or interventions that are different in women or during life course development.

**EPI 597R (1–3) Directed Study**

Provides the opportunity to pursue a specialized course of study in an area of special interest. Complements rather than replaces or substitutes for course work.

**EPI 599R (4) Thesis**

Fall, Spring, Summer. Permission of faculty adviser required. Students prepare a monograph that embodies original research applicable to public health. This incorporates a hypothesis that has been successfully evaluated with appropriate statistical and epidemiological techniques, and is potentially publishable and has public health impact

**EPI 701 (1) Translational and Interdisciplinary Research in the Public Health Sciences**

Fall, PhD students only. The field of public health necessitates the translation of research into programs that promote population health. This course focuses on how research in each discipline of public health may be disseminated and put into practice, contributing to the improvement of population health.

This course also lays the foundation for students to move beyond disciplinary silos common to doctoral work and enrich their studies through multiple perspectives. To both of these ends, this course prepares students to understand the language and approaches of several disciplines comprising the field of public health (in academia and practice), thereby fostering greater potential for collaboration and improvement in population health.

**EPI 730 (2) Grant Writing**

Spring. PhD students only. Provides an opportunity to apply information learned in methods and substantive courses to the very practical task of gaining funding for research projects.

**EPI 731 (3) Analytical Foundations of Epidemiology**

Spring. PhD students only. Designed specifically for Epidemiology PhD students to learn statistical theory in the context of epidemiologic concepts and examples. The aim of the course is for students to understand the theories that underlie the statistical techniques used in epidemiologic research, and to enhance critical thinking and integration of this material with broader epidemiologic principles.

**EPI 738/538 (2) Advanced Epidemiologic Methods I**

Spring. PhD Student Section. Prerequisites: EPI 530, EPI 534, BIOS 500, BIOS 501 or BIOS 591P (EPI 534 and BIOS 501 may be taken concurrently). Covers a wide variety of topics in epidemiological methodology. Topics include basic epidemiological measures, confounding, misclassification, selection bias, types of case-control studies, Berkson's bias, matching, and estimation of epidemiological parameters.

**EPI 739 (2) Advanced Epidemiological Methods II**

Fall. PhD students only. Prerequisite: EPI 530, EPI 534, BIOS 500, BIOS 510 (may be taken concurrently). Permission required. Deals with a variety of topics in quantitative epidemiological methodology. Topics include concepts of study design and the relationship to hazard rates and ratios, conditional logistic regression, polytomous logistic regression, continuation odds ratio models, and Poisson regression.

**EPI 740 (3) Epidemiological Modeling**

Fall. Prerequisites: EPI 530, EPI 534, BIOS 500, BIOS 501, or BIOS 591P. Epidemiologic modeling covers concepts, methods, and application of key mathematical modeling approaches used to evaluate multivariable data from epidemiologic studies: logistic regression, Cox regression, Poisson regression, collinearity, modeling strategy for determining a best model, goodness of fit, and ROC curves. This course also teaches a broader philosophy and approach for constructing the appropriate models for answering the question under study.

**EPI 744 (2) Pediatric and Perinatal Epidemiology**

Fall. Prerequisites: EPI 530 and EPI 534 or permission of instructor. A survey course to review the current knowledge about various topics related to factors that affect pregnancy outcome. Introduces methodologic issues that are specific to these studies. Methodologic issues are addressed in the context of choosing study design options and evaluating current research, including choice of study populations, prevalence issues, selection issues, confounding, misclassification, and etiologic heterogeneity

**EPI 746 (2) Reproductive Epidemiology**

Spring. Prerequisite: EPI 504 or EPI 530. Reviews the epidemiology of human reproductive function and the methodologic issues involved in studying reproduction. Topics include male and female infertility, pregnancy loss, the impact of infectious diseases on reproduction, contraceptive efficacy, unintended pregnancy, and environmental and occupational impacts on reproduction.

**EPI 747/EHS 747 (2) Advanced Environmental Epidemiology**

Fall. Prerequisites: EPI 530, EPI 534, BIOS 500, and BIOS 501 or 591P or permission of instructor. Explores design and analysis issues specific to occupational and environmental epidemiology. Case studies representative of a variety of exposures, outcomes, and study designs are used to illustrate the application of epidemiological principles to the study of exposures occurring in the workplace and in the general environment.

**EPI 750 (3) Analysis of Longitudinal Data in Epidemiological Research**

Spring. Prerequisite: EPI 530, EPI 534, EPI 740, and BIOS 500, BIOS 501 or 591P. Permission required. Offers methods for analyzing longitudinal data sets to evaluate epidemiological research involving relationships between exposure and disease variables.

**EPI 790R (1) PhD Journal Club**

PhD students only. Presents discussions by invited guests, faculty, and students of special topics and research findings.

**EPI 791 (1) Teaching Epidemiology**

Fall. PhD students only. This course provides an opportunity for students to learn and apply principles and skills involved in organizing and teaching an introductory level course in epidemiologic methods. The course is designed to be taken concordantly with the student's teaching assistantship experience. Topics include using Blackboard, leading and facilitating discussion of epidemiologic topics and assignments, developing and evaluating laboratory exercises and exams, and diversity in the classroom (both culturally and with respect to learning styles). Discussions of specific labs will cover objectives and key concepts for each. There will also be an opportunity for students to discuss teaching issues and challenges with their peers and the instructor, and to offer advice and solutions based on their experience.

**EPI 797R (1–3) Directed Study**

PhD students only. Provides the opportunity to pursue a specialized course of study in an area of special interest. Complements rather than replaces or substitutes for course work.

**EPI 798R. Pre-candidacy Research PhD**

students only. Dissertation research.

**EPI 799R (VC) Research**

PhD students only. Dissertation research.

**RES 999/PUBH MPH Graduate in Residence**

Full-time status. Must have completed all course hours.

# Department of Health Policy and Management

<http://www.sph.emory.edu/departments/hpm/index.html>  
Kenneth E. Thorpe, Chair

The Department of Health Policy and Management (HPM) offers courses of study leading to the Master of Public Health (MPH) and the Master of Science in Public Health (MSPH) degrees through the Rollins School of Public Health (RSPH) and the a Doctor of Philosophy (PhD) degree through the Emory University Graduate School of Arts and Sciences in collaboration with the departments of economics and political science. The residential MPH programs of the HPM department are oriented to professional public health practice with concentrations in either health management or health policy. The MSPH in health policy and health services research focuses on building analytic skills for the assessment and development of health-related public policy. Additional information on admission processes, course sequencing, and course scheduling can be found on the HPM website.

The HPM department cooperates with other Emory schools in offering several residential dual degree programs. The collaboration with Goizueta Business School leads to the MBA and the MPH with a concentration in health policy. The joint offerings with the Emory School of Medicine lead to MD and MPH degrees for medical students; the MMSc and MPH for physician assistants students; and, the DPT and MPH degrees for physical therapy students with a concentration in health services management. The collaborations with Emory University School of Law, the Nell Hodgson Woodruff School of Nursing, the Candler School of Theology, and the Center for Ethics lead, respectively, to the JD and MPH, the MSN and MPH, the MDiv and MPH, the MTS and MPH, or the MA and MPH with concentrations in either health services management or health policy.

Interdisciplinary in philosophy and content, the courses of the Department of Health Policy and Management are designed to provide students with a comprehensive background in the conceptual and analytical knowledge necessary to understand and improve health status and health services delivery. The orientation of the HPM courses aligns academic knowledge with best professional practice. The teaching programs of the department are reinforced by its adjunct faculty members, all of whom are working in the health sector. They provide students with a professional practice perspective in the ever-changing and evolving health care system.

The HPM faculty is interdisciplinary. Academic backgrounds and active research commitments include economics, political science, management, epidemiology, and sociology, as well as the clinical health sciences. Major research areas include comparative health systems analysis and health reform initiatives in the United States, Europe, as well as both emerging and developing economies. Individual members are conducting research in clinical economics of cardiovascular disease and cancer, outcomes and effectiveness research, quality of life measures, payment systems, physician reimbursement and physician profiling, mental health policy, women's health policy, and health care labor markets. PhD dissertations and MSPH theses build on the research activities of the faculty. MPH students are encouraged to identify research opportunities with individual members of the faculty. The department conducts collaborative research with other components of

Emory University and with The Carter Center, the United States Centers for Disease Control and Prevention (CDC), the World Health Organization (WHO), the World Bank, voluntary organizations, U. S. corporations, and Atlanta-based hospitals and health care institutions.

## Department Admission Criteria

Students in the master's programs come from a variety of academic and professional backgrounds. Some are mid-career professionals who have considerable experience as managers, policy makers, or clinicians. Others are more recent graduates from a variety of academic backgrounds who are beginning their professional careers in public health. Combined with students in the dual-degree programs, the result is a diverse student body that is encouraged to contribute its knowledge and experience to classroom experience. Applicants are expected to demonstrate both strong academic skills, including analytical, quantitative, and verbal skills, as well as leadership potential in their chosen field. The residential MPH option may be completed on either a full-time or part-time basis. The MSPH may only be completed on a full-time basis. Students are admitted only at the fall semester.

## PhD Department Admission and Program Requirements

The Department of Health Policy and Management offers a PhD program in health services research and health policy through the Laney Graduate School. An online application is available at [www.graduateschool.emory.edu](http://www.graduateschool.emory.edu). Students specialize in economics and political science and take core course work in the departments of economics and political science along with those courses in the department. The Department of Health Policy and Management offers doctoral seminars in health policy, health economics, and empirical methods.

The admissions process focuses on qualifications indicating that the candidate is likely to excel as a scholar in an academic or applied research organization. Demonstration of quantitative aptitude, as indicated by previous course work or GRE scores, is particularly important. International students whose native language is not English must attain a minimum score of 560 or more on the paper Test of English as a Foreign Language (TOEFL) or 200 or higher score on the computer-based TOEFL. To be considered for admission in fall 2017, applications and supporting credentials must be received by December 2016. Please see the Department of Health Policy and Management website at [www.sph.emory.edu/hpm/doctoral.php](http://www.sph.emory.edu/hpm/doctoral.php) for specific deadlines, a full description of the doctoral degree course and dissertation requirements.

## MPH-MSPH Departmental Program Requirements

The MPH in both HPM residential options and the MSPH in health policy research build on the public health core of epidemiology, biostatistics, environmental health, and the behavioral sciences. Required MPH course work includes Health Policy and Resource Allocation, Financial Accounting, Health Economics, and Introduction to Health Care Management. During the first semester as a graduate student, MPH students choose either the policy or management option. Courses are sequenced and scheduled with prerequisites. Students not following the recommended course-sequencing pattern may find it necessary to extend their programs beyond their original expectations. Each MPH option concludes with a set of capstone courses. The HPM residential MPH programs require 42 semester hours for graduation. The 48-hour MSPH requires a series of research theory and methodology courses as well as the completion of a master's thesis. The MSPH is highly recommended for those considering doctoral work or a career in applied health services research. In addition to the required courses, all HPM students have the opportunity to expand their education through a variety of electives. After one semester of MPH or MSPH coursework, each student is responsible for completing a field work experience or practicum.

## Which Degree Program Should I Choose?

The three masters degree programs are distinct and it is important to understand which one best fits your needs. The following table details some of the major differences between the three programs.

	MPH in Management Track	MPH Policy Track	MSPH in Health Policy Research
<b>Program Focus</b>	Management	Policy	Research
<b>Credits Required</b>	42	42	48
<b>12-Month Option</b>	Yes	No	No
<b>Elective Credits</b>	4	6	9
<b>Thesis Option?</b>	No	No	Required
<b>Cohort size</b>	40	40	7-10
<b>Sample Key Skills</b>	Accounting, marketing, human resources	Advocacy, policy analysis, economics/financing	Research design, methods, programming, analysis
<b>Sample Career Path</b>	Managing a hospital or nursing home	Legislative advocacy, consulting	Think tank, government, doctoral program

## MPH PROGRAMS

### MPH Required Core Courses

Course Number	Course Title	Credit Hours
<b>BSHE 500</b>	Behavioral and Social Sciences in Public Health	2
<b>BIOS 500</b>	Statistical Methods I	3
<b>BIOS 500L</b>	Statistical Methods I Lab	1
<b>EH 500</b>	Perspectives in Environmental Health	2
<b>EPI 504</b> or <b>EPI 530</b>	Fundamentals of Epidemiology Epidemiologic Methods I (prerequisite or concurrent with BIOS 500)	2 4
<b>GH 500</b>	Critical Issues in Global Health	2

### MPH Required HPM Core Courses

<b>HPM 501</b>	Health Policy and Resource Allocation	3
<b>HPM 502</b>	Introduction to Management	2
<b>HPM 510</b>	Financial and Managerial Accounting	3
<b>HPM 521</b>	Introduction to Health Economics	3
<b>HPM 595</b>	Practicum	0

### Health Policy Option Requirements

<b>HPM 522</b>	Economic Evaluation of Health Care Programs	4
<b>HPM 523</b>	Public Financing in the Health Care System	3
<b>HPM 561</b> or <b>HPM 557</b>	Public Health Law Healthcare Administration Law	2 2
<b>HPM 576</b>	Capstone: Policy Analysis: Analytic Applications Electives	3 6

### Health Services Management Option Requirements

<b>HPM 511</b>	Financial Management for Health Care Organizations	3
<b>HPM 540</b>	Human Resource Management in Health Care	2
<b>HPM 545</b>	Health Care Marketing	2
<b>HPM 557</b> or <b>HPM 561</b>	Health Care Administration Law Public Health Law	2 2
<b>HPM 560</b>	Capstone I: Strategic Management	3
<b>HPM 550</b>	Capstone II: Operations Management Electives	3 5

**MSPH PROGRAM****MSPH Required Core Courses**

Course Number	Course Title	Credit Hours
<b>BSHE 500</b>	Behavioral and Social Sciences in Public Health	2
<b>BIOS 500</b>	Statistical Methods I	3
<b>BIOS 500L</b>	Statistical Methods I Lab	1
<b>EH 500</b>	Perspectives in Environmental Health	2
<b>EPI 504</b> or <b>EPI 530</b>	Fundamentals of Epidemiology Epidemiologic Methods I (prerequisite or concurrent with BIOS 500)	2 4
<b>GH 500</b>	Critical Issues in Global Health	2

**MSPH in Health Policy and Health Services Research  
Required HPM Courses**

<b>HPM 501</b>	Health Policy and Resource Allocation	3
<b>HPM 581</b>	Research Seminar I (Process)	2
<b>HPM 583</b>	Research Seminar III (Analysis)	2
<b>HPM 585</b>	Quantitative Methods I (Database Management—SAS)	3
<b>HPM 586</b>	Quantitative Methods II (Statistical Analysis – Stata)	3
<b>HPM 587</b>	Advanced Research Methods	1
<b>HPM 521</b>	Introduction to Health Economics	3
<b>HPM 522</b>	Economic Evaluation of Health Care Programs	4
<b>HPM 523</b>	Public Financing in the Health Care System	3
<b>HPM 595</b>	Practicum	0
<b>HPM 730</b>	Theory-Based Research Design Seminar II	4
<b>HPM 599</b>	Thesis	9
Electives		

**Faculty**

**E. Kathleen Adams**, Professor. BS, Florida State University, 1970; MS, 1972; PhD, University of Colorado, Boulder, 1979. Costs of illness, public financing of health care, Medicaid and low-income populations, provider supply.

**Edmund R. Becker**, Professor. BS Westminster College, 1971; MA, Ohio University, 1973; PhD, Vanderbilt University, 1981. Health care organization and financing, health politics and policy, organizational theory and behavior, physician payment and productivity, unions and labor relations.

**Sarah C. Blake**, Research Assistant Professor. BA, University of South Carolina, 1992; MA, The George Washington University, 1996; PhD., The Georgia Institute of Technology, Georgia State University, 2013. Health policy and program evaluation with a focus on Medicaid, women's health, maternal and child health, quality improvement, long-term care, and emergency preparedness.

**Walter M. Burnett**, Research Professor. BA, Wesleyan University, 1959. MA University of Iowa, 1964; PhD University of Iowa, 1965. Strategic Management, medical care organization, health policy analysis. **Steven D. Culler**, Associate Professor. BA, College of Wooster, 1977; MA, 1979; PhD, University of Illinois, 1981. Health care financial management, cost effectiveness analysis, outcomes research, and health economics.

**Janet R. Cummings**, Associate Professor. BA, University of North Carolina, Chapel Hill, 1999; PhD, University of California at Los Angeles, 2009. Mental health services, health disparities, geographic variations in health care access and utilization, and children's health.

**Benjamin G. Druss**, Rosalynn Carter Chair in Mental Health, Professor. BS, Swarthmore College, 1985; MD, New York University, 1989; MPH, Yale University, 1995. Mental health services, mental health policy research.

**Joyce D. K. Essien**, Research Associate Professor. BS, Wayne State University, 1969; MD, 1971; MBA, Georgia State University, 1988. Health reform and public health policy, preventive health systems, continuous quality improvement, clinical laboratory systems design and management.

**Laura Gaydos**, Research Associate Professor. BA, Brown University, 1998; PhD, University of North Carolina, Chapel Hill, 2004. Adolescent/child health, faith-based health, health policy, maternal and child health.

**Jason Hockenberry**, Associate Professor. BS, Kutztown University, 2002; PhD, Lehigh University, 2008. Health economics.

**David H. Howard**, Associate Professor. BA, Vassar College, 1994; PhD, Harvard University, 2000. Health economics, medical decision making.

**Kara Jacobson**, Senior Associate. BA, Emory University, 1991; MPH, Emory University, 1993. Associated with the Emory Center on Health Outcomes and Quality. Health outcomes, health promotion and prevention programming, health literacy, arthritis.

**Joseph Lipscomb**, Professor and Georgia Cancer Coalition Distinguished Cancer Scholar; BA, Vanderbilt University, 1970, PhD, University of North Carolina at Chapel Hill, 1975. Outcomes research with a focus on cancer, quality of care assessment, cost-effectiveness analysis, health workforce planning, decision modeling.

**Victoria L. Phillips**, Associate Professor. BA, Tulane University, 1986; DPhil, Oxford University, 1991. Health economics, labor markets for health professionals, long-term and community-based care, economic evaluation.

**Kimberly Risk**, Research Associate Professor. Director, Emory Center on Health Outcomes and Quality; BA, Bryn Mawr College, 1980; MD, University of Pennsylvania, 1984; PhD, University of Pennsylvania, 1991. Access to medical care, public hospital needs of underserved populations. Jointly appointed with the Emory University School of Medicine.

**Richard B. Saltman**, Professor. BA, Dartmouth College, 1969; MA, 1971; PhD, Stanford University, 1980. Comparative health policy, organization theory, United States health policy, health systems reform, accountability and governance.

**Kenneth E. Thorpe**, Robert W. Woodruff Professor and Chair, Department of Health Policy and Management; BA, University of Michigan, 1978; MA, Duke University, 1980; PhD, Rand Graduate Institute, 1985. Director, Emory Center on Health Outcomes and Quality. United States health policy and finance.

**Silke von Esenwein**, Assistant Research Professor. BS, University of Massachusetts, 1998; MA, Emory University, 2000; PhD, Emory University, 2004. Healthcare integration, mental health policy, reproductive health policy.

**Adam S. Wilk**, Assistant Professor. AB, Dartmouth College, 2006; PhD, University of Michigan, 2015. Health economics, physician, decision-making, Medicaid and underserved populations, geographic variation in access, utilization, and quality.

**Zhou Yang**, Assistant Professor. MB (internal medicine), Beijing University of Chinese Medicine, 1996; MPH, University of California at Los Angeles, 1999; PhD, University of North Carolina, Chapel Hill, 2003. Cost and efficacy of prescription drugs, economic burden of chronic diseases.

**Courtney R. Yarbrough**, Assistant Professor. BA, University of Georgia, 2004; MPA, University of Georgia, 2012; PhD, University of Georgia, 2017. Pharmaceutical markets and policy, substance abuse policy, community social capital and health outcomes.

## Emeritus Faculty

**Fredric D. Kennedy**, Emeritus Professor. BE, Yale University, 1956; BS, 1958; MBA, University of California, Los Angeles, 1961; PhD, University of North Carolina at Chapel Hill, 1974.

**Stephen Margolis**, Emeritus Professor. BA, Yeshiva University 1963; PhD, Cornell University, 1970.

**Jane C. Nelson**, Emeritus Professor; BA, Barry College, 1965; MEd, University of Washington, 1969; PhD, University of Florida, 1977; MPH, Emory University, 1992.

## Jointly Appointed Faculty

**Amy Y. Chen**, Assistant Professor and Director; BA, University of Texas at Austin, 1988; MD, Johns Hopkins University, 1992; MPH, University of Texas School of Public Health, 1999. Health services research. Emory University School of Medicine; Atlanta Veterans Affairs Hospital.

**Michael M.E. Johns**, Chancellor. BS, Wayne State University, 1964; MD, University of Michigan Medical School, 1968. Executive Vice President for Health Affairs.

**Jeffrey P. Koplan**, Professor and Director, Global Health Initiative. BA, Yale University, 1966; MD, New York University, 1970; MPH, Harvard University, 1978. Director, Global Health Initiative.

**Sara Markowitz**, Professor and Director of Studies. Economics and English, BA, cum laude, Rutgers University, 1993. Economics, MA, Hunter College, City University of New York, 1998. Economics, PhD, Graduate Center, City University of New York, 1998. Professor of Economics, Emory University.

**Deborah A. McFarland**, Associate Professor. BA, Ohio Wesleyan University, 1968; MPH, University of North Carolina, Chapel Hill, 1973; MSc, London School of Economics, 1984; PhD, University of Tennessee, 1987. Health policy, health financing in UNITED STATES and developing countries, comparative health policy, health systems reform, equity and the poor. Jointly appointed with the Department of Global Health.

**Ani B. Satz**, Associate Professor of Law. BA, University of Tulsa, 1994; PhD Monash University (completed at Princeton University), 2001; JD, University of Michigan, 2001. Health law, law and philosophy, torts, and disability law. School of Law.

## Adjunct Faculty

**Sarah Benator**, Adjunct Professor. BA, University of Michigan 2006; JD, Emory University School of Law, 2009; MPH, Emory University, 2010. The Sanders Law Firm, P.C.

**Curtis S. Florence**, Adjunct Associate Professor. BA, University of Alabama, 1989; PhD, University of North Carolina, 1997; Health and labor economics, econometrics.

**Allan B. Goldman**, Adjunct Associate Professor. BS, City College of New York, 1966; MPH, Emory University, 1976. Georgia Division of Aging Services.

**Robert E. Gross**, Adjunct Assistant Instructor. BA, University of Maryland, 1971; MBA, Loyola College, 1977. Databases in health care, health care revenue cycle. PriceWaterhouseCoopers.

**Leigh S. Hamby**, Adjunct Professor. BS, Emory University, 1984; MD, Emory University, 1988; MSHA, University of Alabama, 2000. Vice President, Piedmont Hospital.

**Manoj Jain**, Adjunct Professor. BE, Boston University 1985; MD; MPH. Medical Directory QSource, Tennessee's Quality Improvement Organization since 1999.

**Brooke N. Kamke**, Adjunct Instructor. BA, Miami University, 2001; MPH, Emory University, 2005. Emory Healthcare.

**Ramzi Kanso**, Adjunct Associate Professor, BS Accounting, the University Alabama, MBA, CPA, CFF, CISSP. Vice President, Global Enterprise Risk Management (ERM) and Chief Audit Executive at fortune Multinational Healthcare Company.

**Carol Koplan**, Adjunct Assistant Professor. BA, Brandeis University, 1964; MD, Tufts University, 1968. The Carter Center.

**Alan F. Kramer**, Adjunct Assistant Professor; BA, Baylor University, 2008; MPH, Emory University, 2009. Director of Patient Access, Emory Healthcare.

**Robert K. Merritt II**, Adjunct Associate Professor; BA, Washington and Lee University, 1987. MA, Emory University, 1991. US Centers for Disease Control and Prevention.

**Michael O'Toole**. Adjunct Associate Professor. BS, Georgia Institute of Technology, 2000; MS, 2006. Piedmont Healthcare.

**Christopher E. Press**, Adjunct Associate Professor. BBA, Ohio University, 1976; MBA, University of Cincinnati, 1980. Morgan Health Care Consulting.

**Ali R. Rahimi**, Adjunct Professor. BS, Florida State University, 1996; MPH, Emory University, 2000; MD, Medical College of Georgia, 2004. Division of Cardiovascular Medicine and Department of Quality. Kaiser Permanente of Georgia and The Southeast Permanente Medical Group.

**Hana Ross**, Adjunct Assistant Professor. MPH, Prague School of Economics (Czech Republic), 1992; MA, University of Illinois, 1999; PhD, 2000. American Cancer Society.

**Lawrence Sanders Jr.** Adjunct Professor. BA, Clemson University, 1977; MD, Vanderbilt University, 1981; MBA, University of Pennsylvania, 1988. Southwest Hospital and Medical Center.

**Richard Sanders**, Adjunct Professor. BA, Duke University, 1992, JD, Emory University, 1996. Private law practice.

**Fredric E. Shaw**, Adjunct Professor. BA, University of New Hampshire, 1973; MD, University of Vermont College of Medicine, 1977; JD, Columbia Law School, 1992. Public Health Surveillance and Informatics Program Office, US Centers for Disease Control and Prevention.

**Brooke K. Tripp**, Adjunct Assistant Professor. BA, University of North Carolina at Chapel Hill, 1999; MPA, University of Georgia, 2001. Center for Surveillance, Epidemiology, and Laboratory Services, US Centers for Disease Control and Prevention.

**Jon W. Wollenzien Jr.**, Adjunct Professor. BBA, Marshall University, 1985; MS-HCA, University of Osteopathic Medicine and Health Sciences, 1990; DBA, Nova Southeastern University, 1999. Palmetto Health Council Inc.

**Mohammed F Zamakhshary**. Adjunct Assistant Professor. MD, King Abdulaziz University, 1998; MEd, Dalhousie University, 2003. Assistant Deputy Minister of Health for Planning and Training, Ministry of Health, Saudi Arabia, since 2011.

## Health Policy and Management Course Descriptions

### HPM 500 (2) Introduction to the US Health Care System

Fall, spring. Required for all MPH students. Introduces students to the US health care system, both the public and private sector. Examines the structure of the health system, current topics in health care reform, the policy process, and advocacy for public health.

### HPM 501 (3) Health Policy and Resource Allocation

Fall. Required for HPM students. Examines the formulation and implementation of health policy in the US health care system. Emphasizes the application of analytical contributions from health economics, health services research, and other policy-related disciplines to current issues in health care delivery, organization, and financing.

### HPM 502 (2) Introduction to Health Care Management

Fall. Required for HPM students. Introduces the theory and principles of management. Topic areas include motivation, leadership, organizational change, human resources administration, organizational theory, strategic planning, and management control systems. Teaches practical applications of management theory through case studies and group discussions.

**HPM 510 (3) Financial and Managerial Accounting**

Fall. Introduces the basic accounting concepts, analytical techniques, decision-making tools, and vocabulary needed for effective management of health care organizations. The first part of the course is devoted to the fundamentals of accounting, including preparation and analysis of financial statements. The second part covers the generation, use, and interpretation of accounting information for making managerial decisions.

**HPM 511 (3) Financial Management for Health Care Organizations**

Spring. Prerequisite: HPM 510. Introduces the fundamental theories and relationships guiding financial decision making as they apply to the management of health care organizations. Focuses on the key managerial issues related to maintaining and expanding a health care organization's assets. Selected topics in this course include short-term assets management, discounting cash flow analysis, capital acquisition decisions, and capital budgeting decisions.

**HPM 521 (3) Introduction to Health Economics**

Fall. Introduces basic supply and demand concepts applied to health care markets, using microeconomic theory. Topics of discussion include what does or does not make health care distinctive as an economic good, the market for health care in theory and practice, and economic proposals to overcome existing market failure.

**HPM 522 (4) Economic Evaluation of Health Care Programs**

Spring. Prerequisite: HPM 521 or permission of instructor. Prerequisites: HPM 500 or HPM 501, and HPM 521. Examines the theory, methods, and applications of economic evaluations (cost-effectiveness, cost-benefit, cost-utility) of health care programs, using examples from both developing and developed countries. Applications range from economic evaluations of medical procedures to economic evaluations of intervention programs in developing countries.

**HPM 523 (3) Public Financing in the Health Care System**

Spring. Prerequisites: HPM 500 or HPM 501 and HPM 521. Focuses on the principles of public finance to enable students to evaluate tax subsidies and revenue structure used to finance health care with comparisons to alternative structures. Students apply the concepts of equity and efficiency in financing health care at the national and state levels.

**HPM 531 (3) Contemporary Issues in Health Economics and Healthcare Management**

Fall. In this course students will develop and practice the skills needed to stay on top of the contributions of leading thinkers in healthcare management, policymaking, and research to our understanding of health care markets and the systems key stakeholders. Students will review, integrate, and apply key principles and frameworks of health economics and financial management through the examination of key contemporary issues in this setting including pharmaceutical pricing, value-based reimbursements systems, and hospital consolidation and antitrust.

**HPM 534 (2) Grant Writing in Public Health**

Fall. Basic introduction to grant writing for students with little or no grant writing experience. Topics covered will include determining which grants you should apply for,

the basic components of a grant proposal, data sources and resources, and the funder's perspective. Each student will plan and write sections of a short foundation grant proposal.

**HPM 540 (2) Human Resource Management in Health Care**

Spring. Prerequisites: HPM 501 and HPM 502 or permission of the instructor. Provides an overview of interpersonal dynamics, conflict resolution, and human resource management in health care organizations.

**HPM 545 (2) Health Care Marketing**

Spring. Prerequisites: HPM 501 and HPM 510 or permission of the instructor. Presents the basic concepts of marketing in the context of the delivery of health care services in the United States. Students undertake an applied marketing project on a group basis.

**HPM 550 (3) Capstone: Operations Management**

Spring, summer. Prerequisites: HPM 501, HPM 502, HPM 510, HPM 511, HPM 521, HPM 540, HPM 545, HPM 561 or 557. Integrates various analytical approaches developed in prerequisite courses into practical decision making by analyzing the problems of day-to-day operations within the health care organization. Includes problems in personnel staffing, personnel training and directing, financial control, performance measurement, and planning. Uses a case method approach.

**HPM 554 (2) Quality Improvement Methodologies for Health Care**

Spring. Prerequisite: HPM 500 or HPM 501 or permission of the instructor. Presents a theoretical framework to facilitate the continuous improvement of quality in health care organizations. Introduces multiple approaches, including outcome measurement and case management. Emphasizes team development, analytical statistics, and process knowledge.

**HPM 555 (2) Health Care Management in the Outpatient Setting**

Fall, Summer. This course introduces students to management in the outpatient setting. Health care is transitioning into the lowest cost environment to provide care for patients. This shift from inpatient to outpatient care has created significant needs for strong managers who understand the complexity of providing care in this setting. By using a variety of case studies and practical experiences, students will be able to apply the concepts learned in a real-world setting. Students will learn advanced techniques with Microsoft excel that will help prepare for future roles in health care management.

**HPM 556 (3) Physician Performance**

Spring. Prerequisite: HPM 500 or HPM 501 or permission of the instructor. Provides a systematic review of the major determinants of the performance of physicians, who by one estimate directly or indirectly influence 70 to 90 percent of all medical activities. Covers practice variation; medical appropriateness; patient and physician characteristics; uncertainty and medical decision-making; organizational characteristics and financial incentives; error and negligence; measuring MD performance via physician profiling, report cards, managed care; changing practice; utilization management; standards and professional society guidelines.

**HPM 557 (2) Healthcare Administration Law**

Spring. Introduces students to legal aspects of contemporary issues associated with the administration of health services organizations. Through readings, lectures and group

interactions, the course will analyze the legal relationships between individual providers, payers, and regulatory entities and their impact on administration of these organizations.

**HPM 558 (2) Fundamentals of Hospital Administration**

The course is an introduction to the hospital sector of the health care economy, including its history, scale, structure, organization, functions, finances, and issues. Hospitals will be discussed as an economic entity within health care with a focus on the forces which shape industry structure and behavior. Students will become acquainted with key constituencies, including owners, sponsors, physicians, nurses, other clinicians, governance, management, regulators, accreditors, and others.

**HPM 559 (3) Negotiation and Conflict Management in the Health Care Setting**

Spring. The purpose of this course is to understand the basic theory and processes of negotiation so that the student can negotiate successfully in a variety of organizational settings. Students will develop these skills by preparing for and simulating a variety of case study negotiations.

**HPM 560 (3) Capstone: Strategic Management**

Fall, summer. Prerequisites: HPM 501, HPM 502, HPM 510, HPM 511, HPM 521, HPM 540, and HPM 545 and HPM 557 or 561. This course is intended as the integrative Capstone course for management students completing their degree in Health Policy and Management. Examines the formulation and implementation of business strategies in health care organizations, models of strategic management, and the role of stakeholders in the strategic management process. Reviews specific analytical tools used in strategy formulation, choice, and implementation, with an emphasis on real-world health care applications.

**HPM 561 (2) Fundamentals of Public Health Law**

Spring. Introduces students to US and international legal environments of public health, including constraints imposed by constitutional, statutory, and conventional requirements. Addresses the sources of law and their interrelationships, legal protections of fundamental rights, government police powers, social welfare and entitlements programs, health care regulation, access to health care, ethics, legal liability, health care financing, and legal influences on public health programs in developing countries. Students are also exposed to the political and advocacy aspects of the law-making process as it relates to public health.

**HPM 562 (3) Health Insurance Concepts**

Spring. Introduces the basic structure, pricing, and management of financial risks by private health insurance plans, and the estimation of future expenditures for public health insurance programs. Examines the operation of health insurance plans from both the buyer and the insurer perspectives; how health plans employ actuarial estimates to project the cost of their benefit packages and determine the premiums they charge; and methodology as it pertains to the projection of costs in public health insurance programs.

**HPM 563 (2) Aging and Health Care Issues**

Fall. Acquaints the students with physical, social, psychological, and economic changes related to aging and the impacts of an aging population on the delivery of health care services. Demographic trends, public policies, recent legislation, long-term care, Alzheimer's disease, family care giving, and the socioeconomic characteristics of the elderly are discussed.

**HPM 564 (3) Health Outcomes**

Spring. Prerequisite: HPM 500 or HPM 501 or permission of instructor. Assists students in understanding outcomes research and provides a background in the basic tools used in outcomes studies.

**HPM 565 (2) Health Care for the Indigent**

Fall. Prerequisite: HPM 500 or HPM 501 or permission of instructor. Explores the problems of uninsured Americans in obtaining health care. Reviews the scope of the current problem and the role of existing programs, as well as future directions for health policy. Addresses practical issues in program administration, with an emphasis on Medicaid and other indigent care programs.

**HPM 569 (3) Women's Health Policy: A Lifecycle Approach**

Spring. Instructs students in understanding the historical, social, political, legal, and economic factors and values that have influenced the development and implementation of health policy pertaining to women in the United States. Addresses current key policy and advocacy issues and examines varying views of women's rights, roles, and responsibilities in the health care system.

**HPM 570 (3) Comparative Health Care Systems**

Spring. Prerequisite: HPM 500 or HPM 501 or permission of instructor. Explores and analyzes the current reform process in European and developed Asian health systems. Emphasizes normative policy as well as financial objectives, and the conflicting interests of key actors. Concludes with a consideration of implications for health system reform in the United States.

**HPM 573 (3) Access to Health Care: Measures, Determinants and Current Issues**

Fall. Topics in the course include the measurement of access and examination indicators of access over time and across states and constituent groups. The determinants of access including age, race, ethnicity, income, insurance and health risk are presented. Current topics in access are integrated into the course. These include racial disparities, immigrant status, geographic variation, the uninsured and access under Medicaid.

**HPM 574 (2) Health Literacy—Importance as a Public Health Problem**

Spring. The purpose of this course is to provide students with the academic background to describe health literacy as an important public health problem. Course content will focus on the prevalence of literacy problems in America, the relationship between health literacy and health outcomes, organizational approaches to improving health literacy, assessment and development of appropriate educational materials from a clear and simple perspective, and patient education in the health care setting.

**HPM 575 (3) Capstone: Advanced Health Policy Analysis**

Spring. Prerequisites: HPM 501, HPM 510, HPM 521, HPM 522, HPM 523, HPM 561 or 557 and HPM 576. This class will teach students how to conduct public health policy analyses that examine options to address emerging issues, conduct analysis of the options and communicate recommendations.

**HPM 576 (3) Capstone: Policy Analysis Analytic Applications**

Fall. Prerequisites: HPM 501, HPM 510, HPM 521, HPM 522, HPM 523, HPM 561 or 557. Students will learn how to use the tools of economics, statistics, and decision analysis to predict the impact of state and federal policy changes. Topics covered include market failures, cost-benefit analysis, discounting, inflation adjustment, and contingent valuation. During the course of the semester, studies will write four to five brief policy analyses to model the impact of policy changes. Examples include caps on noneconomic damages in malpractice suits, mandated coverage of contraceptives by insurance plans, increases in tobacco excise taxes, and bans on drivers' use of cell phones. The course emphasizes presentation of results for nontechnical audiences.

**HPM 577 (2) The Mental Health/Medical Interface in the United States**

Spring. The seminar explores the complex and dynamic relationship between general health and mental health in the United States. Gaps in parity and proposal for achieving parity are discussed in the context health reform.

**HPM 578 (2) Political Institutions and Health Policy Implementation**

Spring. To effectively participate in the policy process as an analyst, policymaker, advocate, or citizen, it is necessary to understand the institutional and political context within which policy is made. This course provides an introduction to the US political institutions, mechanisms, and entities that influence the federal and state health policy-making process, including the legislature, executive branch, courts, interest groups, political parties, and the media. Case studies will be used throughout the course to illustrate key learning objectives.

**HPM 579 (1) Mental Health and Public Health Interface**

This course will provide a perspective on mental health and public health by offering a description of how the fields interface. The instructor will integrate presentations by experts from the field who address issues related to mental health and public health. The class will provide a cross-cutting, cross-departmental experience including topics in mental health surveillance and epidemiology, mental health services and policy, mental health and behavioral science, and global mental health. The class will span two semesters, offering one semester hour of credit for each year. (Satisfactory/unsatisfactory grading only)

**HPM 581 (2) Research Seminar I**

Fall. The seminar introduces the health services research process, research design issues, ethical problems faced by researchers and the development of the MSPH thesis. Enrollment is limited to students admitted to the MSPH in health policy and health services research.

**HPM 583 (2) Research Seminar III**

Fall. Prerequisite: HPM 581, 730. The seminar provides HPM MSPH students with the guidance necessary for developing a quantitatively-based thesis using large secondary data sets. It begins with development of a researchable health policy question and the selection of appropriate databases and operational definitions. Enrollment is limited to students admitted to the MSPH in health policy research.

**HPM 585 (3) Quantitative Methods I**

Fall. The course is an introduction to SAS software with a focus on organizing and merging large databases for purposes applying statistical analysis. The course complements the introduction to SAS in the BIOS 500 lab. Enrollment is limited to students in the HPM MSPH program.

**HPM 586 (3) Quantitative Methods II**

Spring. Prerequisite: HPM 585 and BIOS 500. This course introduces student the STATA software with a focus on using the software for statistical analysis for data which has been organized using the SAS software. The course builds on the concepts intro in BIOS 500 and concludes with regression analysis. Enrollment is limited to students admitted to the HPM MSPH program or permission of the instructor is required.

**HPM 587 (1) Advanced Research Methods**

Fall. Prerequisite: HPM 730, 586. The course provides the opportunity for students to explore in depth the major research methods used in health policy research. The emphasis is on employing methods which are consistent with the limitations of study data and study assumptions. Enrollment is limited to students admitted to the MSPH in health policy research or the HPM doctoral program.

**HPM 590 (VC) Seminar: Selected Topics in Health Services Management**

Prerequisite: permission of instructor.

**HPM 591 (VC) Seminar: Selected Topics in Health Policy**

Prerequisite: permission of instructor.

**HPM 591F (2) Informatics for Public Health Management and Policy**

Designed for individuals with careers focused on decision and/or policy-making responsibilities in health care organizations. Highlights the policy and management issues associated with the mixture of information technology health care and public health decision making. To build a basic decision-making perspective and skills, each student prepares and presents a decision based project proposal.

**HPM 592 / BSHE 592 (2) Case Studies in Public Mental Health**

This course is the core course for the Certificate in Mental Health. Offered each spring, any current first year student enrolled in the MPH or MSPH program at RSPH that plans to pursue the Certificate in Mental Health must enroll in BSHE 592/HPM 592. Participating certificate students will be identified based on their enrollment in this course.

**HPM 595R (0) Practicum**

Enables students to apply skills and knowledge through supervised field training experience in a public health setting complementing interests and career goals.

**HPM 598R (VC) Special Study Project**

Presentation of a paper that defines a problem in public health, reviews the literature on this subject, details the methodologies for data collection and analysis, describes findings and conclusions, and discusses implications for public health.

**HPM 599R (VC) Thesis**

Preparation of a monograph based on original research applicable to public health. Should be publishable or have potential public health impact.

**HPM 720R (4) Doctoral Seminar in Health Policy**

The purpose of this year-long seminar is to acquaint students with the major areas of health policy research, active areas of research in health policy and economics, and faculty from the Department of Health Policy and Management and elsewhere in the University who conduct health policy research. The course will address a different topic every week, and the instructor for that week will provide an overview of the topic, discuss the research methods that are used to study the topic, highlight the seminal works in the area, and lead a discussion of the readings.

**HPM 730 (4) Theory-Based Research Design Seminar II**

Spring. This course guides students through the process of writing a health services research proposal that is grounded in theory. The course work emphasizes the development of a conceptual framework tailored to a specific research topic by drawing on existing theory, conceptual frameworks, and scientific literature. Other course topics include conducting literature searches and critically reviewing relevant literature; defining and measuring theoretical constructs; developing testable hypotheses; identifying potential omitted variable bias; and executing an effective research presentation.

**HPM 740 (4) Doctoral Seminar in Health Economics**

This reading course is designed to acquaint students with advanced mathematical theoretical economics. Students will learn theoretical models of health behavior, estimate health production functions, learn the economics of insurance and adverse selection. They will develop tools to evaluate the advantages/shortcomings of health care markets (hospitals, insurance, pharmaceutical).

**HPM 750 (2) How Health Policymakers Think About Making Policy: Insights from Political Science and Organizational Behavior**

Fall. Prerequisites: Doctoral standing or permission of the instructor. The course will focus on key concepts and factors that influence real-world health policymaking. This approach will begin with two articles presenting the central policy concepts of “governance” and “stewardship”. These two concepts have been increasingly applied to the health sector and can serve as normative touchstones for more traditional political science and political economy perspectives on the process of health policy decision-making.

**HPM 760 (4) Doctoral Seminar in Health Services Research**

This class is designed to acquaint students with the major tools of health services research. The course will also highlight existing and emerging issues in health services research, policy and management. Discussions of options for addressing the issues, and a review of the empirical literature evaluating their impact are examined.

## Hubert Department of Global Health

<http://www.sph.emory.edu/departments/gh/index.html>

**Carlos del Rio, Chair**

**Dabney Evans and Juan Leon, Co-Directors  
of Graduate Studies**

The Hubert Department of Global Health (GH) offers a course of study leading to the Master of Public Health (MPH) degree. Students have the option to select one of four areas of concentration: infectious diseases, community health and development, public nutrition or sexual and reproductive health, and population studies. Graduation requires 42 hours of credit, 70 percent of which are school, department, or concentration required courses. Flexibility and personal attention are hallmarks of the program. The department also offers an accelerated three-semester, 42 credit hour MPH program for applicants with at least five years of full-time, relevant work experience or a professional graduate degree in a field relevant to public health plus at least three years of experience.

A great strength of the department is the cultural and ethnic diversity of our students, faculty and staff. In the 2016–2017 academic year, the student body included students from 64 different countries and 30 states in the United States. The department is the host of important fellowship programs that bring mid-career professionals from developing countries who are selected for their leadership potential. Our current fellowships include the Humphrey, Foege, Fulbright, Malawi, and King Abdullah Fellowship Programs.

Our dynamic faculty members have been recognized with numerous awards and honors and are the department's greatest assets. Among the Rollins School of Public Health's 169 full-time faculty, 41 hold primary appointments in the Hubert Department. They are complemented by 33 jointly appointed faculty (with other departments at RSPH, Emory Medical School, the Graduate School of Arts and Sciences, and other schools in the University) and more than 100 adjunct faculty. Our faculty share broad interests and have special expertise in a wide range of Global Health issues.

A major strength of the Rollins School of Public Health is the opportunity for students to participate in field work as a part of their program. These field experiences include a wide range of program, research, and service opportunities. Opportunities are available both with local agencies such as the US Centers for Disease Control and Prevention (CDC), the American Cancer Society, CARE, and The Carter Center as well as an extensive network of national and international organization. Funding for travel is available on a competitive basis.

Graduates of the program find employment abroad with international and bilateral agencies, government departments, nongovernmental organizations, and research and academic institutions. Many also work with US-based organizations concerned with global issues. Some graduates go into clinical fields and others go on to pursue a PhD. Finally, many graduates find opportunities in the domestic sector in a variety of settings, demonstrating that the knowledge and skills learned in the department are widely applicable.

The department co-sponsors a PhD program in Nutrition and Health Sciences. This program is administered by the Graduate School of Arts and Sciences of Emory University. MPH graduates have successfully gained admission to this PhD program in the past.

### Interdepartmental and Dual Degree Programs

The Department of Global Health offers two interdepartmental programs and ten dual degree programs. For more information about each of these programs, please see the Interdepartmental Degrees or Dual Degree sections of this catalog. The first interdepartmental program, facilitated in collaboration with the Department of Environmental Health, is the Global Environmental Health MPH. This program is designed to provide students with the basic skills required to address environmental health issues worldwide.

The second interdepartmental program, facilitated in collaboration with the Department of Epidemiology, is the Global Epidemiology MPH or MSPH. This program is designed to provide students with quantitative research methodologies that enable graduates to contribute to the global public health sector.

The department also offers 12 dual-degree programs facilitated in collaboration with other schools within the University. We offer a MSN/MPH with the Nell Hodgson Woodruff School of Nursing, a MBA/MPH with the Goizueta School of Business, MD/MPH, DPT/MPH, and PA/MPH with the School of Medicine, an MA/MPH in bioethics and a PhD/MPH with the Laney Graduate School, a JD/MPH and JM/MPH with the School of Law, an MDiv/MPH and MTS/MPH with the Candler School of Theology as well as an MPH/External Professional Degree Program. In addition to the previous internal dual degree programs, the department also offers an external MD/MPH program.

### Department Admission Criteria

The Department of Global Health actively seeks a multicultural body of graduate students. Minimum requirements for admission include satisfactory completion of a four-year baccalaureate degree or its equivalent, a demonstrated commitment to global health and an appreciation of cultural diversity. Work or academic experience in the health field is highly desirable but not essential. Preference is given to students who have applied experience in the global arena. This might include working with underserved communities either in other countries or within the local state or region, volunteer or mission experience, Peace Corps, AmeriCorps, etc.

In general, all applicants (US and non-US) are required to submit test scores from the Graduate Record Examination (GRE). Test scores submitted may not be more than five years old. Waivers are granted only for applicants who have prior doctoral-level degrees from US institutions. Applicants who have recently taken the Medical College Admissions Test (MCAT) may submit these scores as alternative to the GRE. International applicants from non-English-speaking countries are required to take the Test of English as a Foreign Language (TOEFL).

### Global Health Program Requirements

Completion of the MPH degree with a specialty in global health requires forty-two semester hours of course work. Full-time students complete these requirements in two years. Students are required to take RSPH/departmental core courses as well as courses from their selected area of concentration. Students may fulfill their elective requirements by taking courses here at Rollins, or in some cases, from other graduate

programs within Emory University. Students must also complete a four credit hour thesis project which may take the form of a research thesis, a special studies project, or a systematic review of the literature. Topics should be relevant to global public health.

The Department of Global Health places great importance on the practicum, which is designed to complement academic training with practical, hands-on experience. All students must show evidence of substantial practical public health experience relevant to the field of global health prior to receiving clearance for graduation. The practicum may provide an opportunity for some students to gather data or experience required in the development of their thesis or special studies project.

Please find the School as well as Department core requirements outlined below. Additional requirements will be explored by concentration.

## Department of Global Health Core Requirements

### RSPH Core (14 credits)

Course Number	Course Title	Credit Hours
<b>BIOS 500</b>	Statistical Methods I	4
<b>BSHE 500</b>	Behavioral and Social Sciences in Public Health	2
<b>EPI 530</b>	Epidemiological Methods I	4
<b>EH 500</b>	Perspectives in Environmental Health	2
<b>HPM 500</b>	Introduction to US Health Care Systems	2

### Department Core (6 credits)

GH 501	Evidence Based Policy, Programs and Research	3
GH XXX	Practicum Methods Course	3

### Methods Section (6 credits)

Students are required to complete a minimum of 6 credits in approved methods courses. The student's Faculty and Academic Advisor assist with course selection.

<b>GH 599R/598R</b>	Thesis/Special Study Project	4
<b>GH 595R</b>	Practicum	0

**Total Core Required Courses** 29

## Infectious Disease Concentration

Infectious diseases make up a substantial burden of disease globally and their control remains critical to protect the health and development of all populations. Even in an era where non-communicable diseases are increasingly causing morbidity and mortality, we still face numerous infectious disease threats. In addition to established problems such as HIV/AIDS, tuberculosis, malaria respiratory infections and diarrheal illnesses, emerging infections like pandemic H1N1 influenza A (2009), Ebola, MERS-CoV, Zika, and multi drug resistant organisms, present ongoing threats to all health systems. Defining the causes, patterns, and options for the control and prevention, or treatment of infectious diseases is key to comprehensive public health policy for all countries.

During the past sixty years, significant advances have been made in reducing the threat of a number of infectious diseases. For example, smallpox has been eradicated and, with continued efforts, poliomyelitis and dracunculiasis (guinea worm disease) are likely to be eradicated in the next several years. However, at the same time, emerging

and reemerging infections, present new and exciting challenges. Additionally, the tools and techniques for infectious disease control are not always optimally utilized, and this presents an area of health promotion activity that needs to be constantly evaluated.

We have defined many of the problems and, in many instances, know what needs to be done for control and prevention. And with the advent of new molecular and "big data" techniques, there are ever-evolving methods to prevent infectious diseases. However, there are still areas that need research to better define the problems, and to identify the best methods of control and prevention or the best strategies to implement what we already know. The infectious disease concentration is designed to prepare students to assume appropriate, responsible, challenging positions to address these significant global infectious disease problems. Students will acquire the necessary skills to provide leadership, research, and service and to work as members of teams committed to the prevention and control of infectious diseases throughout the world.

## Course Requirements

In addition to departmental and core required courses, students in the Infectious Disease (ID) concentration must take a course on International ID as well as Public Health Surveillance. Students may also complete additional course work in epidemiology/research, program management, health promotions or other specialties in order to develop these skills sets. Students have the potential to develop their special studies project or thesis with adjunct faculty at the US Centers for Disease Control and Prevention, Emory School of Medicine, The Carter Center, the DeKalb Board of Health, CARE, and other local agencies.

### ID Concentration Core

Course Number	Course Title	Credit Hours
<b>Both courses required</b>		
<b>GH 511</b>	International Infectious Diseases	2
<b>GH 515</b>	Transforming Public Health Surveillance	3
<b>Concentration Suggested Electives</b>		
<b>GH 512</b>	Health in Complex Emergencies	2
<b>GH 516</b>	Global Perspectives in Parasitic Diseases	3
<b>GH 517</b>	Case Studies in Infectious Diseases	2
<b>GH 518</b>	Emerging Infectious Diseases	2
<b>GH 529</b>	Water and Sanitation in Developing Countries	2
<b>GH 535</b>	Field Epidemiology	2
<b>GH 536</b>	Religion and Health in Context: HIV	3
<b>GH 544</b>	Field Trials and Intervention Studies	2
<b>GH 550</b>	Epi and Dynamic of STD/HIV Transmission	2
<b>GH 558</b>	Global Issues in Antimicrobial Resistance	2
<b>GH 562</b>	Epi of Tuberculosis	1
<b>GH 563</b>	AIDS: Global Public Health Implications	2
<b>GH 564</b>	Public Health Preparedness	2
<b>GH 566</b>	Immunization Programs and Policies	2
<b>GH 571</b>	Vaccines and Vaccine Preventable Diseases	2

<b>GH 574</b>	Malaria Prevention and Control	2
<b>GH 580</b>	Environmental Microbiology: Control of Food and Waterborne Diseases	2
<b>GH 582</b>	Global Climate Change: Health Impacts and Response	2
<b>BSHE 516</b>	Behavioral Epidemiology	3
<b>EPI 541</b>	Hospital/Healthcare Epidemiology	2
<b>EPI 544</b>	EPI of Foodborne and Diarrheal Disease	2
<b>EHS 750</b>	Public Health Ecology: The Environmental Determinants of Infectious Disease	3

## Public Health Nutrition Concentration

The field of Public Health Nutrition seeks to understand the complex causes of malnutrition, including both over and under-nutrition, and the consequences of malnutrition on growth, development, communicable and non-communicable disease and economic productivity through the life course and across generations. Public health nutrition also concerns itself with the development and evaluation of programs and policies to improve diets and nutritional status. The public health nutrition practitioner requires a solid understanding of the biology of nutrition, the individual, community, and socio-political determinants of dietary intakes and nutritional status, and the principles of design, implementation, and evaluation of interventions. As such, the Public Health Nutrition concentration takes a broad perspective with respect to both content and methodological approaches to equip students for careers in public health nutrition. Graduates can use these skills to serve government agencies, the private sector, nongovernmental organizations, applied research institutions, and universities in the US and globally.

## Course Requirements

The concentration requirements include a methods course in nutritional assessment and a combination of nutrition courses based on areas of interest (maternal and child nutrition, food security, chronic disease prevention, etc). Thesis projects are often conducted in conjunction with ongoing faculty research projects, or within an international agency or local action group program.

## Public Health Nutrition Concentration Core

Course Number	Course Title	Credit Hours
<b>GH 545</b>	Nutritional Assessment (required)	3

*Plus one course from this group*

*(life course nutrition)*

<b>GH 534</b>	Diabetes: A Model for Global Non-communicable Disease Prevention and Control	2
<b>GH 546</b>	Maternal and Child Nutrition	3
<b>GH 551</b>	Diet and Chronic Disease	2
<b>GH 552</b>	Global Elimination of Micronutrient Malnutrition	2

*Select one course from this group (research/program methods)*

<b>GH 568</b>	Community Engaged Food Security (ALT Spring)	3
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<b>EPI 537</b>	EPI of Chronic Diseases	2
<b>GH 591L</b>	Methods in Nutrition Epidemiology	2

## *Suggested Life Courses Electives*

<b>GH 538</b>	Food and Nutrition in Humanitarian Emergencies	2
<b>GH 548</b>	Human Nutrition I*	6
<b>GH 549</b>	Human Nutrition II*	6
<b>NRSG 614</b>	Human Lactation and Breastfeeding Management	2
<b>GH 555</b>	Proposal Development	2
<b>GH 502</b>	Survey Research Methods	3
<b>GH 522</b>	Qualitative Research Methods	3
<b>GH 525/GH 543</b>	Qualitative Data Analysis	2/3
<b>GH 514</b>	Communicating for Healthy Behavior and Social Change	2
<b>GH 560</b>	Monitoring and Evaluation	3
<b>GH 515</b>	Transforming Public Health Surveillance	3
<b>GH 580</b>	Environmental Microbiology: Control of Food and Waterborne Diseases	2
<b>EPI 544</b>	Epidemiology of Foodborne and Diarrheal Diseases	1

*\*Courses designed primarily for the PhD program in nutrition and health sciences that would be appropriate for students seeking a basic course in nutritional biochemistry or metabolism, or the clinical aspects of nutrition.*

## Sexual Health, Reproductive Health, and Population Studies Concentration

The concentration in sexual and reproductive health and population studies (SRP) addresses current domestic and global issues in these domains using anthropological, demographic, epidemiological, ethnographic, and applied behavioral methods. Students and faculty in the concentration explore a range of topics in three core population areas: (1) Reproductive Health includes fertility, family planning, abortion, women's and children's health; (2) Sexual Health includes gender identity, sexuality, sexual health and behavior, sexually transmitted infections, HIV/AIDS; and (3) Population Studies includes aging and mortality, life-course and chronic disease, migration, family and social networks, and population and economic development.

The concentration prepares students for programmatic or research work in these fields, according to their personal career objectives. Students who wish to pursue a programmatic focus develop competencies in public health policy and program management or evaluation. All students are encouraged to learn methods of data collection and analysis relevant to cross-cultural analysis. Every effort is made to have students gain an interdisciplinary perspective on sexual and reproductive health and population studies. Interdisciplinary courses are offered within the department, and students are encouraged to seek courses from other departments in the school and University. This concentration also maintains close ties with CARE and with the US Centers for Disease Control and Prevention, with which some of the world's foremost scientists in the field of reproductive health are affiliated. A number of these scientists play an important role in the concentration by serving as course lecturers and by mentoring students.

## SRP Concentration Core

The Sexual Health, Reproductive Health, and Population Studies concentration requires that students complete six credit hours of core courses from the following list. Additionally, students may elect to take courses from the suggested elective list depending on the skill set they desire.

Course Number	Course Title	Credit
<b>Fertility and Reproduction: Choose one</b>		
GH 530	The Global Elimination of Maternal Mortality from Abortion	2
GH 541	Technology of Fertility Control	2
<b>Sexual and Reproductive Health</b>		
GH 559	Gender and Global Health	3
<b>Population Studies</b>		
GH 569	Population and Development	2
<b>Concentration Suggested Electives</b>		
GH 502	Survey Research Methods	3
GH 507	Health as Social Justice	2
GH 514	Communicating for Healthy Behavior and Social Change	2
GH 515	Transforming Public Health Surveillance	3
GH 526	Interdisciplinary Perspectives on Human Rights	2
GH 539	Reproductive Health Program Management	2
GH 546	Maternal and Child Nutrition	3
GH 550	Epidemiology and Dynamics of STD/HIV Transmission	2
GH 555	Proposal Development	2
GH 560	Monitoring and Evaluating Global Public Health Programs	3
GH 563	AIDS: Global Public Health Implications	2
GH 593	Topics in Religion and Health: Sexual and Reproductive Health	3
NRS 614	Human Lactation and Breastfeeding Management	2
EPI 516	Issues in Women's Health	2
EPI 533	Programming in SAS	2
EPI 534	Epidemiologic Methods II	3
EPI 565	Data Sources and Utilization in MCH Epi	2
EPI 746	Reproductive Epidemiology	2
BIOS 501	Statistical Methods II	4

## Community Health and Development Concentration

The community health and development concentration prepares professionals to work at community, district, and national levels to strengthen indigenous capacity to address their priorities, improve health, and move towards well-being. Graduates of this concentration will have the capacity to work with grassroots organizations, private voluntary groups, governmental agencies, and other sector providers to design, implement, manage, and evaluate community-based public health initiatives. Emphasis will be given to the development of public health skills, the acquisition of knowledge about working within local communities in different cultural settings and development contexts, and promoting social and behavioral change for healthier communities.

### CHD concentration core

This concentration requires three core courses, one from each group below, and concentration electives. Students are also encouraged to take additional elective courses of their choice based on the skill set they may desire (i.e., epidemiology, health promotion, or program management).

Course Number	Course Title	Credit Hours
<b>Community Interaction</b> <i>One course required</i>		
GH 507	Health as Social Justice	2
GH 508	Health and Human Rights Seminar	2
GH 513	Community-Based Participatory Research	3
GH 519	<b>Faith and Health: Transforming Communities</b>	<b>3</b>
GH 568	Community-Engaged Food Security	3
GH 572	Community Transformation	2

### Management

GH 521	Program Management	3
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### Community Metrics and Measurement

GH 560	Monitoring and Evaluating Global Health Programs	3
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### Concentration Suggested Electives

GH 560	Monitoring & Evaluating Global Public Health Programs	3
GH 505	Social Entrepreneurship for Global Health	1
GH 539	Reproductive Health Program Management	2
EPI 534	Epi Methods II	4
EPI 591U	Application of Epi Concepts	3
BIOS 501	Statistical Methods II	4
BIOS 550	Sampling Application I	2
GH 502	Survey Methods	3
GH 524	Health Systems Performance and Health Systems Financing (Sp)	2
GH 522	Qualitative Research Methods (Sp)	3
GH 525	Qualitative Data Analysis (F)	3
GH 514	Communicating for Healthy Behavior (Sp)	2
GH 519	Faith and Health: Transforming Communities (Sp)	3
GH 561	Applications of Public Health Economics in Low and Moderate Countries (F)	3
EPI 565	Data Sources and Methods in MCH Epidemiology	2
GH 552	Global Elimination of Micronutrient Malnutrition (F)	2
GH 529	Water and Sanitation in Developing Countries (Sp)	2

<b>GH 509</b>	Translation and Implementation Science (Sp)	2
<b>GH 530</b>	GEMMA Seminar	2
<b>GH 594</b>	Opportunities in Global Cancer Prevention and Control	2
<b>GH 545</b>	Nutritional Assessment	3
<b>GH 515</b>	Transforming Public Health Surveillance	3
<b>GH 582</b>	Global Climate Change	2
<b>GH 509</b>	Translation and Implementation Science	2
<b>GH 594</b>	Opportunities in Global Cancer Care Programs	3
<b>HPM 522</b>	Economic Evaluation of Health Care Programs	3

### Accelerated Global MPH Program

The Hubert Department of Global Health offers an accelerated MPH program for applicants who have met the requisite admissions criteria. This is a 42 credit hour degree program that requires three semesters, or 12 months, in residence. It includes a practicum and thesis requirement. Once matriculated, it is not possible to transfer into, or out of, this program.

Admission into the accelerated program is very competitive and requires that applicants meet the following criteria.

- Five years of full-time, post-baccalaureate relevant public health work experience
- or*
- A professional graduate degree in a field relevant to public health plus at least three years of relevant public health experience.

All applicants must also include a statement outlining their proposed thesis topic and thesis chair in their admissions packet. Applicants are encouraged to contact HDGH faculty in advance of their application in order to explore thesis opportunities and support.

### Accelerated Global MPH Curriculum

The curriculum outlined below represents the standard three semester accelerated MPH. Individual schedules may vary.

Course Number	Course Name	Credit Hours
<i>Fall Semester</i>		
<b>BIOS 500</b>	Statistical Methods I (with lab)	4
<b>EH 500</b>	Environmental Health	2
<b>EPI 530</b>	Epidemiological Methods I (with lab)	4
<b>GH501</b>	Evidence Based Policy, Programs and Research	3
GH 560	Monitoring & Evaluating Global Public Health Programs	3
	Credit Hours	16
<i>Spring Semester</i>		
<b>HPM 500</b>	US Health Care Systems	2
<b>GH XXX</b>	Methods Coursework	6
<b>GH 595</b>	Global Health Practicum	0
<b>BSHE 500</b>	Behavioral and Social Sciences in Public Health	2
<b>Electives</b>		7
	Credit Hours	17

### *Summer Semester*

<b>GH 598 or 599</b>	SSP or Thesis	4
<b>Elective/Directed Study</b>		5
Credit Hours		9
Total Credit Hours		42

### Interdepartmental Programs

The Hubert Department of Global Health offers two interdepartmental programs. A joint MPH or MSPH degree is offered in **Global Epidemiology** with the Department of Epidemiology. A joint MPH degree in **Global Environment Health** is offered with the Department of Environmental Health. For more information and specific course work, please refer to the Interdepartmental Programs section of this catalog.

## Faculty

**O. Yaw Addo**, Research Assistant Professor. BSc., University of Ghana, 2001; MS, University of Cincinnati, 2007; PhD, University of Minnesota-Twin Cities, 2010. Maternal-Child Health; Nutritional & Life course Epidemiology; Child growth & maturation and related outcomes, Global Health & Nutrition surveillance.

**Mohammed K. Ali**, Associate Professor. MBChB, University of Cape Town, 2003; MSc (cardiovascular medicine), University of Oxford, 2007; MSc (global health), 2007; MBA, Emory University, 2012. Cardiovascular disease and diabetes, knowledge translation, interdisciplinary education.

**Karen L. Andes**, Research Assistant Professor. BA, Arizona State University, 1987; BA, Arizona State University, 1987; MA, Northwestern University, 1989; PhD, Northwestern University, 1994. Sexual and Reproductive Health, Latino Health (US and LAC), Qualitative Research Methods and Analysis, Community Based Participation Action Research, Urbanization and Slums.

**Solveig Argeseanu**, Associate Professor. BA, George Washington University, 1997; MSc, London School of Economics and Political Science, University of London, 2001; MA, University of Pennsylvania, 2003; PhD, 2006. Demography, mortality, health, over the life course, migrant and refugee health family and social influences on health obesity.

**Robert A. Bednarczyk**, Assistant Professor. BS, Lebanon Valley College, 1993; MS, SUNY-Albany School of Public Health, 2006; PhD, SUNY-Albany School of Public Health, 2010. Adolescent and adult vaccines, vaccine policy, human papillomavirus, adolescent health.

**John B. Blevins**, Research Associate Professor. BA, Furman University, 1989; MDiv, Duke University, 1992; PhD, Emory University, 2005. Religion and public health, religion and sexual health, religion and HIV/AIDS, community-level HIV prevention, community health assets mapping.

**Robert F. Breiman**, Director, Emory Global Health Institute, and (Acting) Professor. BS, University of Arizona, 1975; MD, University of Arizona, 1979; Internal Medicine and Infectious Diseases, UCLA, 1987; acute respiratory infections, diarrheal diseases, bacterial and viral vaccines, typhoid fever, urbanization, surveillance, emerging infectious diseases.

**Kenneth G. Castro**, Professor. BSc, University of Puerto Rico, 1974; MSc candidate, Northeastern University, 1976; MD, State University of New York at Stony Brook School of Medicine, 1980. Social internal medicine. Montefiore Medical Center, NY. 1983; EIS Program, CDC, 1985; Infectious diseases, Emory University, 1989. Global and domestic infectious diseases with a focus on HIV, tuberculosis, diagnostics, clinical trials, and epidemiologic studies aimed at informing evidence-based policies.

**Cari Jo Clark**, Associate Professor. BA, University of Kansas, 1996; MPH, Yale School of Public Health, 1999; ScD, Harvard School of Public Health, 2005. Health effects of exposure to child maltreatment and intimate partner violence and the design and evaluation of violence prevention strategies in low and middle-income countries.

**Carlos del Rio**, Hubert Professor and Chair. MD, Universidad La Salle (México), 1983. HIV/AIDS, Sexually transmitted infections (especially *N. gonorrhoeae*) and TB. Emerging infections and antibiotic resistance.

**Dabney P. Evans**, Co-Director of Graduate Studies, Research Assistant Professor. Executive Director, Institute of Human Rights. BA, Arizona State University, 1996; MPH, Emory University, 1998; PhD, University of Aberdeen, 2010. Health and human rights, complex humanitarian emergencies, sexual and reproductive health, capacity building.

**Ghada N. Farhat**, Research Associate Professor. BSc, American University of Beirut 1998, MPH, American University of Beirut 2000, PhD, University of Pittsburgh 2006. Non-communicable diseases with a focus on breast cancer; public health training and research capacity building in underdeveloped setting.

**William H. Foegen**, Presidential Distinguished Professor of Public Health Emeritus. BA, Pacific Lutheran College, 1951; MD, University of Washington, 1961; MPH, Harvard University, 1965. Disease eradication and agricultural projects of Global 2000 of The Carter Center, child survival and development, global tobacco plague, medical ethics, preventive medicine, injury control.

**Stanley O. Foster**, Professor Emeritus. AB, Williams College, 1955; MD, University of Rochester, 1960; MPH, Emory University, 1982. Strengthening the capacity of learners to work with communities to help them identify and overcome barriers to health and well-being.

**Eugene J. Gangarosa**, Professor Emeritus. BA, University of Rochester, 1950; MD, 1954; MS, 1955. Control of foodborne and waterborne diseases, child survival issues, primary health care, minority health issues, migrant health, graduate education in public health.

**Monique Hennink**, Associate Professor. BA, Flinders University of South Australia, 1987; PhD, University of Southampton, 1998. Demography, reproductive health, and sexual behavior, HIV/AIDS, culture and behavior, microcredit and health, qualitative research methods, Africa and Asia.

**Sophia A. Hussen**, Research Assistant Professor. BA, Harvard University (Biological Sciences), 2000. MPH, University of Michigan (Health Behavior and Health Education), 2002. MD, University of Pennsylvania, 2006. HIV/AIDS, adolescent health, health disparities.

**Amy Kirby**, Research Assistant Professor. BSA, University of Georgia, 1997; PhD, State University of New York–Buffalo, 2003; MPH, Emory University, 2012. Epidemiology of foodborne and waterborne diseases, molecular microbiology.

**Miriam Kiser**, Research Assistant Professor. RN, New Hampshire Technical Institute, 1978; BA, Georgia State University, 1990; MPH, Emory University, 1993; DMin, Wesley Theological Seminary, 2011. Senior Program Director, Interfaith Health Program. Health as social justice; community engagement; leadership development; religion as a social determinant of health.

**James V. Lavery**, Professor and Conrad N. Hilton Chair in Global Health Ethics. BA University of Western Ontario, 1985; BSc, McMaster University, 1981; MSc University of Toronto, 1994; PhD University of Toronto, 1999. Global health, ethics, research ethics, community engagement, social innovation in ethics, “Humanizing” global health, *Brokered Dialogue*.

**Juan S. Leon**, Co-Director of Graduate Studies. Associate Professor. BA, Dartmouth College, 1996; MPH/PhD, Northwestern University, 2003. Infectious disease, immunology, enteric and foodborne diseases, diarrhea, norovirus, parasitology, chagas heart disease, rotavirus, vaccines, Latin America, Latino immigrants.

**Felipe Lobelo**, Associate Professor. MD, Rosario University, Bogota, Colombia, 2002. PhD University of South Carolina, 2008. Interests are in Chronic Disease prevention, Physical activity, Obesity and Cardio-metabolic diseases in high and low-to-middle income countries.

**Glen F. Maberly**, Professor Emeritus. BSc, University of New South Wales, 1975; MB/BS, 1977; MD, 1983. Micronutrient malnutrition, endocrinology.

**Fauzia Malik**, Lecturer. BA, Punjab University, 1992; MSc, Quaid-I-Azam University, 1998. Community-based participatory interventions, project planning and evaluations, maternal and child health, health-related behavior, reproductive health, HIV/AIDS prevention.

**Reynaldo Martorell**, Robert W. Woodruff Professor of International Nutrition. AB, St. Louis University, 1969; PhD, University of Washington, 1973. Maternal and child nutrition; child growth, micronutrient malnutrition; functional consequences of nutrition in early life; design and evaluation of nutrition interventions; food and nutrition policy; obesity in low and middle-income countries.

**Deborah A. McFarland**, Associate Professor. BA, Ohio Wesleyan University, 1968; MPH, University of North Carolina-Chapel Hill, 1973; MSc, London School of Economics, 1984; PhD, University of Tennessee, 1987. Comparative health policy, health system finance and reform, equity and the poor.

**Joanne A. McGriff**, Research Assistant Professor. AB, Princeton University, 1997; MD, University of Rochester School of Medicine and Dentistry (NY), 2003; MPH, University of Rochester (NY), 2003. Associate Director, Center for Global Safe Water, Sanitation and Hygiene; WASH in healthcare facilities; WASH and behavior; global mental health; Haiti.

**Scott J. N. McNabb**, Research Professor. BS, University of Oklahoma, 1972; MS, 1976; PhD, 1986. Public health surveillance, public health informatics, monitoring and evaluation.

**Christine L. Moe**, Eugene J. Gangarosa Chair and Professor. BA, Swarthmore College, 1979; MS, University of North Carolina-Chapel Hill, 1984; PhD, 1989. Environmental transmission of infectious agents; epidemiology of foodborne and waterborne diseases; environmental microbiology; water, sanitation, and health.

**K. M. Venkat Narayan**, O. C. and Ruth Hubert Professor. MBBS, St. Johns Medical College, 1980; MSc, University of Edinburgh, 1987; MFPHM, Royal College of Physicians, 1988; MBA, Herriot Watt University, 1995. Diabetes, obesity and nutrition

**Saad B. Omer**, Associate Professor. MBBS, The Aga Khan University Medical College, 1998; MPH, Johns Hopkins University, 2003; PhD, 2007. Vaccine trials, vaccine policy, mother-to-infant transmission of HIV, spatial epidemiology and GIS.

**Helena Pachón**, Research Associate Professor. BS, Cornell University, 1993; MS, 1996; MPH, Harvard University, 2002; PhD, Cornell University, 2006. Nutrition, with a focus on fortification.

**Shivani A. Patel**, Research Assistant Professor. BS, University of Michigan, 2003; MPH, University of Michigan, 2009; PhD, Johns Hopkins, 2013. Social epidemiology and health disparities, cardio-metabolic disease, obesity, India

**Usha Ramakrishnan**, Professor. Director, Doctoral Program in Nutrition and Health Science. BS, University of Madras, 1983; MS, 1985; PhD, Cornell University, 1993. Childhood malnutrition, maternal and child nutrition, micronutrient malnutrition.

**Roger W. Rochat**, Research Professor. MD, University of Washington, 1966. Reproductive Health, Global Elimination of Maternal Mortality from Abortion, MCH Epidemiology, program evaluation.

**Lisa R. Staimez**, Research Assistant Professor. BS, University of Arizona, 1999. MPH, Yale University, 2003; PhD, Emory University 2013. Diabetes pathophysiology, lifestyle interventions, nutrition and diet, cardiometabolic diseases.

**Aryeh D. Stein**, Professor. BSc, University of London, 1984; MPH, Columbia University, 1989; PhD, 1992. Nutritional epidemiology, diet and chronic diseases, life course epidemiology, intergenerational effects on health, monitoring and evaluation of public health programs.

**Sandra L. Thurman**, Senior Lecturer and President and CEO, International AIDS Trust. BS, Mercer University. HIV/AIDS, religion and public health.

**Jorge E. Vidal**, Research Assistant Professor. BS, University of Puebla, Mexico, 1999; MSc, National School of Biological Sciences, Mexico, 2002; PhD, Center for Research and Advanced Studies, Mexico, 2006. Infectious diseases, respiratory and gastrointestinal diseases caused by bacterial pathogens, bacterial gene expression during human and animal disease, bioterrorism, antibiotic resistance.

**Rachel Waford**, Research Assistant Professor. BA, Western Kentucky University 2004, MA, Western Kentucky University 2006, PhD, University of Louisville, 2013. Early identification intervention, and prevention for severe mental illness in adolescence through adulthood, substance use in HIV populations, treatment retention and care maintenance in HIV populations.

**Amy Webb Girard**, Assistant Professor. BS, Mercer University, 1997; PhD, Emory University, 2006. Maternal and child health, particularly in relation to nutrition and food security, breastfeeding, and HIV.

**Mary Beth Weber**, Assistant Professor. BS, University of Georgia, 1999; MPH, Emory University, 2002; PhD, 2012. Diabetes and obesity, translational research, lifestyle interventions, lifestyle behaviors.

**Kate Winskell**, Associate Professor. BA, Wadham College, University of Oxford, 1988; MA, Courtauld Institute, University of London, 1990; PhD, 1995. Communication for social and behavioral change, sexuality, and HIV/AIDS.

**Melissa Young**, Assistant Professor. BS, Iowa State University 2006. PHD, Cornell University 2011. Maternal and Child Nutrition, breastfeeding, complementary feeding, child growth, micronutrient malnutrition, program implementation and evaluation.

**Kathryn M. Yount**, Asa Griggs Candler Chair of Global Health and Professor, Hubert Department of Global Health and Department of Sociology. BA, University of North Carolina–Chapel Hill, 1991; MHS, Johns Hopkins University, 1994; PhD, 1999. Gender, empowerment, gender-based violence, women's and children's health, research methods for the social sciences in lower-income populations and settings.

## Jointly Appointed Faculty

**Susan Allen**, Professor. BA, Duke University, 1980; DTMH, Liverpool School of Tropical Medicine, 1983; MD, Duke University, 1984; MPH, University of California at Berkeley, 1995. HIV/AIDS, discordant HIV couples, couples' voluntary counseling and testing (CVCT), HIV vaccine clinical trials.

**Carla J. Berg**, Associate Professor, BA, Dakota Wesleyan University, 2001; MA, University of Kansas, 2003; PhD, 2007. Tobacco control; market research; cancer survivorship; youth health risk behaviors.

**Ruth L. Berkelman**, O. Wayne Rollins Professor. BA, Princeton University, 1973; MD, Harvard Medical School, 1977. Infectious diseases, emerging infections, surveillance, preparedness. Epidemiology Department.

**Henry Blumberg**, Professor. BA, Washington University, 1979; MD, Vanderbilt University, 1983. Emory University School of Medicine. Tuberculosis (clinical and translational research), research training, and global health.

**Peter Brown**, Professor. BA, University of Notre Dame, 1975; MA, State University of New York, Stony Brook, 1976; PhD, 1979. Department of Anthropology, Emory University.

**Thomas F. Clasen**, Professor and Rose Salamone Gangarosa Chair in Sanitation and Safe Water. BA, St. Mary's University of Minnesota, 1978; JD, Georgetown University, 1981; MSc, London School of Hygiene & Tropical Medicine, 2002; PhD, University of London, 2006. Water and sanitation; diarrheal diseases; enteric pathogens; health impact evaluations.

**Jonathan Colasanti**, Assistant Professor. BA, University of Virginia, 2004; MD, University of Miami, 2008; MSPH, University of Miami, 2012. HIV care continuum and care delivery, data-2-care, opportunistic infections, community health workers, primary care delivery in Nicaragua.

**Cheryl Day**, Assistant Professor. BS, Emory University, 1998; PhD, Harvard University, 2003. Tuberculosis, HIV/TB co-infection, human immunology, T cells, NK cells

**Matthew C. Freeman**, Assistant Professor. BA, Wesleyan University, 2000; MPH, Emory University, 2005; PhD, London School of Hygiene and Tropical Medicine, 2011. Water, sanitation and hygiene; enteric pathogens; neglected tropical diseases; monitoring and evaluation.

**Paula Frew**, Assistant Professor. BA, University of California at San Diego, 1990; MA, San Diego State University, 1997; MPH, Emory University, 2001; PhD, University of Georgia, 2007. Community Engagement in Clinical Trials.

**Mary R. Galinski**, Associate Professor. BS, State University of New York, 1979; MS, New York University School of Medicine, 1983, PhD, 1987. Malaria, infectious diseases, parasitology.

**Neel R. Gandhi**, Associate Professor. BA, Williams College, 1994; MD, Brown-Dartmouth Program in Medical Education, 1999. Department of Epidemiology. Tuberculosis, HIV, and drug-resistant TB epidemiology.

**Neela D. Goswami**, Assistant Professor. BS Stanford University, 2002. MD, Johns Hopkins, 2006; MPH, University of North Carolina, Chapel Hill, 2013. Domestic infectious diseases with a focus on HIV, tuberculosis, patient-centered research.

**Danny Haddad**, Assistant Professor. MSc, State University of Groningen, the Netherlands, 1996; MD, State University of Groningen, The Netherlands, 1998. Global Ophthalmology, Neglected Tropical Diseases, Trachoma, Childhood Blindness, Health disparities.

**Craig Hadley**, Associate Professor. BS, University of Utah, 1998; PHD; University of California Davis. Anthropology, food security, mental health, public health nutrition, mixed methods.

**Robert A. Hatcher**, Professor Emeritus. BS, Williams College, 1959; MD, Cornell University, 1963; MPH, University of California, Berkeley, 1973. Emory University School of Medicine.

**James M. Hughes**, Professor. BA, Stanford University, 1966; MD, Stanford University, 1971. Emory University School of Medicine (Infectious Diseases). Emerging infections, antimicrobial resistance, foodborne and water-related diseases, vectorborne and zoonotic diseases, and public health preparedness.

**Ameeta Kalokhe**, Assistant Professor. BS, University of Michigan 2001, MD, Wayne State University 2005, MSc Emory University 2011. Intersection of HIV and gender-based violence, intimate partner violence prevention and evaluation of its health impact.

**Keith P. Klugman**, Emeritus William H Foege Professor of Global Health. MBBCH, PhD, University of the Witwatersrand (Johannesburg), 1981; DTMH, 1985; FRC Path, London, 1991; FRSS Afr (South Africa), 1996. Director of the Pneumonia Program, Gates Foundation.

**Phyllis Kozarsky**, Professor of Medicine. BA, Hobart and William Smith Colleges, 1974; MD, Albert Einstein College of Medicine, 1978. Travel Well International Travelers' Clinic, Emory University Midtown Hospital.

**Eva Lathrop**, Assistant Professor. BA, Bowdoin College, 1992; MD, University of Vermont, 1999; MPH, Rollins School of Public Health, 2009. Emory University School of Medicine.

**Vincent Marconi**, Professor. BS, University of Florida, 1996; MD, Johns Hopkins University, 2000. Infectious diseases, HIV/AIDS, antiretroviral treatment in the US and South Africa.

**John E. McGowan Jr.**, Professor. BMS, Dartmouth Medical School, 1965; MD, Harvard University, 1967. Department of Epidemiology. Healthcare epidemiology, antimicrobial resistance and its relationship to antimicrobial use, especially in healthcare settings. Infectious diseases epidemiology.

**Michael Phillips**, Professor. McGill University, BSc 1971; McMaster University, MD 1974; University of Washington, MA 1984; University of Washington, MPH 1985; University of Washington, PhD, 1986. Mental health.

**Polly J. Price**, Professor of Law and Professor of Global Health. BA, Emory University, 1986; M.A. Emory University, 1986; J.D., Harvard Law School 1989. Global public Health Law, public health policy, infectious disease control.

**Paulina A. Rebollo**, Assistant Professor. MD, Universidad La Salle, 2003; MSC, Emory University, 2008. Diarrheal diseases in pediatric populations, Global health, Rotavirus vaccine immune response in vulnerable populations.

**Ira K. Schwartz**, Associate Professor. BS, Union College, 1972; MD, University of Chicago, 1977. Emory University School of Medicine.

**Andi L. Shane**, Associate Professor. BA, University of Pennsylvania, 1990; MPH, Columbia University, 1992; MD, Louisiana State University. Emory University School of Medicine. Diarrhea prevention, infectious disease applications of probiotics and prebiotics, healthcare associated infections, vaccine immunogenicity in global settings, clinical trial design.

**Lynn M. Sibley**, Professor. BS, University of Colorado, 1973; MS, University of Utah, 1980; MA, University of Colorado, 1987; PhD, 1993. Emory University Nell Hodgson Woodruff School of Nursing.

**Sydney A. Spangler**, Assistant Professor. BS/BSN, University of Utah, 1997; MSN, University of Utah, 1999; PhD University of North Carolina at Chapel Hill, 2009. Reproductive health disparities, effects of stigma and discrimination in access to care, global maternal and newborn health. Nell Hodgson Woodruff School of Nursing.

**Laurence Sperling**, Professor. BA, Emory University, 1985; MD, 1989. Emory University School of Medicine.

**Parmi Suchdev**, Associate Professor. BS/BSA, University of Arizona, 1998; MD/MPH, Northwestern University, 2002. Micronutrient malnutrition, maternal and child nutrition, nutrition and infection, global health education.

**Patrick Sullivan, Professor.** BS, Emory University, 1988; DVM, University of Tennessee, 1992; PhD, 1994. Rollins School of Public Health, Emory University. Infectious disease, surveillance, animal models for infectious diseases, zoonotic diseases, HIV vaccine development.

**H. Kenneth Walker**, Professor. BA Emory University 1958; MD, 1963. Emory University School of Medicine. International Health and international medical education; Workforce Science in Developing Countries.

**Peter W. F. Wilson**, Professor. BS, Yale University, 1970; MD, University of Texas at San Antonio, 1974. Cardiovascular and metabolic disease epidemiology, risk prediction, genetic epidemiology.

## Adjunct Faculty

**David Addiss**, Adjunct Associate Professor. BA, University of California-San Diego, 1977; MD, Medical College of Georgia, 1981; MPH, Johns Hopkins University, 1985. US Centers for Disease Control and Prevention.

**Mark Anderson**, Adjunct Assistant Professor. BA, Franklin and Marshall College, 1983; MPH, University of North Carolina, 1991; MD, University of North Carolina, 1992. US Centers for Disease Control and Prevention.

**Abdullah Mufareh Assiri**, Adjunct Associate Professor. MBBS, King Saud University, 1994.

**Abhay Bang**, Adjunct Professor. MPH, Johns Hopkins University, 1994; MBBS, Nagpur University, India; MD, Nagpur University, India. Society for Education, Action, and Research in Community Health, India.

**Michael Beach**, Adjunct Assistant Professor. BA, Humboldt State University, 1979; PhD, Purdue University, 1987. Centers for Disease Control and Prevention.

**Caryn Bern**, Adjunct Associate Professor. BA, Swarthmore College, 1974; MD, Stanford University, 1978; MPH, Johns Hopkins University, 1989. Centers for Disease Control and Prevention.

**Robert S. Bernstein**, Adjunct Associate Professor. AB, University of Pennsylvania, 1965; MS, Pennsylvania State University, 1968; PhD, 1971; MD, University of Connecticut, 1977; MPH, Johns Hopkins University, 1979. Management Sciences for Health.

**Robert J. Berry**, Adjunct Professor. BS, University of Utah, Utah, 1968; MD, Cornell University Medical College, New York, 1973. US Centers for Disease Control and Prevention. Division of Birth Defects and Developmental Disabilities.

**Oleg Bilukha**, Adjunct Associate Professor. MD, Lviv State Medical Institute, Ukraine; PhD, Cornell University, Ithaca NY. US Centers for Disease Control and Prevention. International Emergency and Refugee Health Branch, National Center for Environmental Health.

**Suzanne Binder**, Adjunct Professor. BS, McGill University, Montreal, 1976; MD, Tufts University School of Medicine, 1981. Consultant.

**Muireann Brennan**, Adjunct Assistant Professor. Medical Degree, Royal College of Surgeons in Ireland, 1985; MD, Trinity College, Dublin, 1990. US Centers for Disease Control and Prevention.

**Claire Broome**, Adjunct Professor. BA, Harvard University, 1970; MD, 1975. US Centers for Disease Control and Prevention.

**Elizabeth Kelly Callahan**, Adjunct Lecturer. BA, University of Cincinnati, 1994; MPH, Emory University, 2009. Director, Trachoma Control Program - The Carter Center, Health Programs.

**Elliott Churchill**, Adjunct Senior Associate Professor. MS, University of North Carolina at Chapel Hill, 1965; MA, 1964. Senior Communications Officer, US Centers for Disease Control and Prevention, 1968–2008 (retired).

**Susan Temporado Cookson**, Adjunct Associate Professor. BS, Duke University, 1975; MD, University of North Carolina, 1985; MPH, Emory University, 2003. US Centers for Disease Control and Prevention.

**Adolfo Correa**, Adjunct Professor. BS, Chemistry, San Diego State University, 1969; MS, University of California, San Diego, 1970; MD, 1974; MPH, Johns Hopkins University, 1981; PhD, 1987. Centers for Disease Control and Prevention.

**Andreea Creanga**, Adjunct Assistant Professor. MD, Carol Davila University of Medicine and Pharmacy, 2002; PhD, Johns Hopkins University, 2009. Centers for Disease Control and Prevention.

**Michael Deming**, Adjunct Associate Professor. BA, University of California at Berkeley, 1968; MD, University of California at San Francisco, 1976; MPH, University of California at Berkeley, 1976. Centers for Disease Control and Prevention.

**Richard Dicker**, Adjunct Professor. BS, Tufts University, 1974; MD, University of Massachusetts, 1979; MSc, Harvard University, 1983.

**Ann M. DiGirolamo**, Adjunct Assistant Professor, BA, Emory University, 1986; PhD, Indiana University, 1994; MPH, Emory University, 2001. CARE USA.

**Rupali Doshi**, Adjunct Assistant Professor. AB, Brown University, 2000; MD, Brown University, 2004; MS, Emory University, 2012.

**Paul Emerson**, Adjunct Assistant Professor. BSc, University of Nottingham, 1991; PGCE, Bath Spa University, 1992; MSc, Liverpool School of Tropical Medicine, 1994; PhD, University of Durham, 2001. The Carter Center.

**Taroub Faramond**, Adjunct Assistant Professor. MD, University of Leningrad, School of Medicine, 1982; MPH, Rollins School of Public Health, 1995. Women influencing Health, Education and Rule of Law.

**Laurie A. Ferrell**, Adjunct Lecturer. BBA, Radford University, 1990; MPH, Emory University, 1998.

**C. Rafael Flores Ayala**, Assistant Adjunct Professor. MAppStat, Louisiana State University, 1981; PhD, University of California at Los Angeles, 1989. Program design, monitoring, and evaluation.

**Thomas R. Frieden**, Adjunct Professor. BS, Oberlin College, 1982; MD/MPH, Columbia University, 1986. Director, US Centers for Disease Control and Prevention.

**Richard Garfield**, Adjunct Professor. RN Hahnemann Medical College 1976, MPH, Columbia University 1980; DrPH, 1987. US Centers for Disease Control and Prevention.

**Helene Gayle**, Adjunct Professor. BA, Barnard College, 1976; MPH, Johns Hopkins University, 1981; MD, University of Pennsylvania, 1981. CARE.

**Richard Gelting**, Adjunct Professor. BS, University of New Hampshire, 1984; MS, Stanford University, 1988; PhD, Stanford University, 1995. US Centers for Disease Control and Prevention.

**M. V. George**, Adjunct Professor. MA/PhD, Australian National University, 1966. Emory University, Department of Sociology.

**Roger I. Glass**, Adjunct Professor. AB, Harvard University, 1967; MD, 1972; MPH, 1972; PhD, University of Goteborg, 1984. Fogarty Center, NIH.

**Teresa Gonzalez-Cossio**, Adjunct Professor. BSc, Universidad Iberoamericana, 1980; MS, Cornell University, 1984; PhD, 1994. National Institute of Public Health.

**Phillip Lawrence Graitcer**, Adjunct Professor. BA, Duke University, 1966; DMD, Temple University, 1970; MPH, Harvard University, 1972. Department of Environmental and Occupational Health.

**Edward Gregg**, Adjunct Associate Professor. BS, College of William and Mary, 1988; MS, Wake Forest University, 1990; PhD, University of Pittsburgh, 1996. Centers for Disease Control and Prevention.

**Patricia M. Griffin**, Adjunct Professor. AB, Immaculata College, 1971; MD, University of Pennsylvania, 1977. US Centers for Disease Control and Prevention.

**Douglas Hamilton**, Adjunct Assistant Professor. BA, Earlham College, 1974; PhD, Vanderbilt University, 1982; MD, 1984. US Centers for Disease Control and Prevention.

**Thomas Handzel**, Adjunct Assistant Professor. BS, Cornell University, 1983; MS, University of North Carolina, 1990; PhD, 1998. US Centers for Disease Control and Prevention.

**Alan R. Hinman**, Adjunct Professor. BA, Cornell University, 1957; MD, Case Western Reserve University, 1961. Task Force for Child Survival and Development.

**Donald R. Hopkins**, Adjunct Professor. BS, Morehouse College, 1962; MD, University of Chicago, 1966; MPH, Harvard University, 1970. The Carter Center.

**Dale Hu**, Adjunct Professor. BA Psychology, Stanford University, California, 1983; MD, University of California, San Diego, 1987; MPH, Johns Hopkins University, 1989. US Centers for Disease Control and Prevention. Division of Birth Defects and Developmental Disabilities.

**Cheng Huang**, Adjunct Assistant Professor. BA, Xiamen University, 1998; MA, Peking University, 2002; MA, University of Pennsylvania, 2003; PhD, 2007.

**Michelle Hynes**, Adjunct Associate Professor. BA, University of Colorado, 1991; MPH, Columbia University, 1998; PhD, Emory University, 2012.

**Jeffrey L. Jones**, Adjunct Associate Professor. BS, University of California, Davis, 1974; MD, 1978; MPH, University of California, Berkeley, 1986. US Centers for Disease Control and Prevention.

**Sumaya Karmini**, Adjunct Assistant Professor. MD, Mazar-e-Sharif Medical University, Afghanistan, 1999. Refugee Women's Network.

**Senait Kebede**, Adjunct Assistant Professor. MPH, Johns Hopkins University, 2002; Doctor of Medicine, AAU, Ethiopia, 1985.

**Christine Ndunge Kiiti**, Adjunct Professor. BS, Houghton College, 1988; MA, Wheaton College, 1992; PhD, Cornell University, 2002. MAP International, USA.

**Senait Kebede**, Adjunct Assistant Professor. MPH, Johns Hopkins University, 2002; Doctor of Medicine, AAU, Ethiopia, 1985.

**Christine Ndunge Kiiti**, Adjunct Professor. BS, Houghton College, 1988; MA, Wheaton College, 1992; PhD, Cornell University, 2002. MAP International, USA.

**Denise Koo**, Adjunct Professor. BA, Harvard College, 1984; MD, University of California, San Francisco, 1989; MPH, University of California, Berkeley, 1988. Centers for Disease Control and Prevention.

**Ekaterina Kurbatova**, Adjunct Assistant Professor. MD, Samara State Medical University, 1998; MPH, Emory University, 2004; PhD, Samara State Medical University, 2006. US Centers for Disease Control and Prevention.

**Eugene Lamb**, Adjunct Assistant Professor. BSc, University of Alberta, 2001; MSc, University of Alberta, 2004; MD, University of Alberta, 2008; DLSHTM, London School of Hygiene and Tropical Medicine, 2010. Medical Epidemiologist, Emergency Response and Recovery Branch, Centers for Disease Control and Prevention, Atlanta

**Kimberly Lindblade**, Adjunct Associate Professor. BS, University of Arizona, 1990; MPH, University of Michigan, 1992; PhD, 1999. US Centers for Disease Control and Prevention.

**Barbara Lopes-Cardozo**, Adjunct Assistant Professor. MPH, Tulane University, 1993; MD, University of Amsterdam, 1981. US Centers for Disease Control and Prevention.

**Stephen P. Luby**, Adjunct Associate Professor. BA, Creighton University, 1981; MD, University of Texas Southwestern Medical School, 1986. US Centers for Disease Control and Prevention.

**Shabir Madhi**, Adjunct Professor. MBChB, University of the Witwatersrand, 1990; MMed Pediatrics, 1998; PhD, 2003. Department of Science and Technology/National Research Foundation–Vaccine Preventable Diseases.

**Frank Mahoney**, Adjunct Assistant Professor. BA, Temple University, 1976; MD, University of Texas, 1983. US Centers for Disease Control and Prevention.

**Michael D. Malison**, Adjunct Associate Professor. BA, Catholic University of America, 1973; MD, University of Miami, 1978. US Centers for Disease Control and Prevention.

**Lise D. Martel**, Adjunct Assistant Professor. BA/Med, Saint Mary's University, 1993; MS, University of Hawaii, 2003; PhD, 2007. Centers for Disease Control and Prevention.

**Brian McCarthy**, Adjunct Associate Professor. BS, University of Notre Dame, 1968; MSc, Rutgers University, 1969; MD, State University of New York, 1973.

**Marjorie McCollough**, Adjunct Associate Professor. BS, Michigan State University, 1983; MS, MGH Institute of Health Professions, 1986; ScD, Harvard University, 1999. American Cancer Society.

**Lesley McGee**, Adjunct Assistant Professor. BSc and BSc (Hon), University of Natal, South Africa, 1993, 1994; PhD, University of Witwatersrand, South Africa, 2002. US Centers for Disease Control and Prevention.

**Ziad Memish**, Adjunct Professor. MD, University of Ottawa, 1987. Saudi Ministry of Health.

**V. Mohan**, Adjunct Professor. MBBS, University of Madras, 1976; MD, 1981; PhD, 1987. Madras Diabetes Research Foundation.

**Diane Morof**, Adjunct Assistant Professor. BA Brandeis University, 1995; MS, London School of Hygiene and Tropical Medicine, 1999; MD, University of Chicago, 2000.

**Carlos Navarro-Colorado**, Adjunct Assistant Professor. MD, Universidad de Alicante, 1993; Master's in Tropical Medicine, Universidad Autonoma, 1994; MSc, London School of Hygiene and Tropical Medicine, 1998; PhD, University of Aberdeen, 2005. Senior Service Fellow, International Emergency and Refugee Health Branch, US Centers for Disease Control and Prevention.

**Ruchira Tabassum Naved**, Adjunct Professor. MS, Peoples Friendship University, 1985; PhD, Peoples Friendship University, 1989.

**Lynnette Neufeld**, Adjunct Assistant Professor. BAsC, University of Guelph, 1990; MS, Cornell University, 1995; PhD, 2000. Head of Division of Nutritional Epidemiology, National Institute of Public Health, Cuernavaca, Mexico.

**Reena Oza-Frank**, Adjunct Assistant Professor. BS, Ohio State University, 1999; MS/MPH, University of Tennessee, 2003; PhD, Emory University, 2009. Centers for Disease Control and Prevention, Ohio Department of Health.

**Amy Patterson**, Adjunct Assistant Professor. BA, Williams College, 1999; MHS, Johns Hopkins University, 2005.

**Juan Pena-Rosas**, Adjunct Assistant Professor. MD, Universidad Central de Venezuela, 1983; MPH, University of Puerto Rico, 1991; PhD, Cornell University, 1993. World Health Organization.

**Henry B. Perry III**, Adjunct Professor. BA, Duke University, 1968; MPH, Johns Hopkins University, 1971; MD, 1974; PhD, 1976. International Center for Diarrheal Disease Research, Bangladesh.

**Bobbie Person**, Adjunct Instructor. BS, Medical College of Virginia 1976; MPH, Emory University, 1989; US Centers for Disease Control and Prevention.

**Dorairaj Prabhakaran**, Adjunct Professor. MBBS, Bangalore Medical College, 1985; MD, All India Institute of Medical Sciences, 1990; DM, 1993; MSc, McMaster University, 2006. Centre for Chronic Disease Control, New Delhi, India.

**Michael Pratt**, Adjunct Professor. BS, University of California at Davis, 1978; MSPE, University of Washington, 1981; MD, 1987; MPH, University of Minnesota, 1989

**Robert E. Quick**, Adjunct Associate Professor. BA, Stanford University, 1974; MS/MPH, University of California-Berkeley, 1981; MD, University of California, San Francisco, 1983. US Centers for Disease Control and Prevention.

**Deepa Raj**, Adjunct Associate Professor. BSc, University of Madras, 1988; MSc, University of Madras, 1990; MPhil, University of Madras, 1992; PhD, 1998. Madras Diabetes Research Foundation.

**K. Srinath Reddy**, Adjunct Professor. MSc, McMaster University, 1988; DM, All India Institute of Medical Science, 1980; MD, All India Institute of Medical Science, 1977; MBBS, Osmania Medical College, Hyderabad, 1973. Public Health Foundation, India.

**Richard Rheingans**, Adjunct Associate Professor. BA, Yale University, 1987; MA, 1992; PhD, Cornell University, 1993.

**Frank O. Richards Jr.**, Adjunct Associate Professor. BA, Williams College, 1975; MD, Cornell University, 1979. US Centers for Disease Control and Prevention.

**Juan A. Rivera**, Adjunct Associate Professor. LIC, Universidad Ibero-Americana, 1979; MS, Cornell University, 1984; PhD, 1988. Instituto Nacional de Salud Pública, 2004.

**Rania Salem**, Adjunct Assistant Professor. BA, American University, 2001; MSc, University of Oxford, 2004; PhD, Princeton University, 2011.

**Scott Santibanez**, Adjunct Associate Professor. BA, West Virginia University, 1990; MD, 1994; MA, Columbia Theological Seminary, 2011.

**Mona Saraiya**, Adjunct Professor. BA-University of Chicago 1987, Rush Medical College 1991. MPH Emory University 1995. Cancer Epidemiology with a focus on HPV vaccination and HPV-based screening, and global cancer issues.

**Peter Schantz**, Adjunct Professor. AB, University of Pennsylvania, 1961; VMD, University of Pennsylvania, 1965; PhD, University of California, Davis, 1971. US Centers for Disease Control and Prevention.

**Daniel Sellen**, Adjunct Associate Professor. BA, MA, University of Oxford, (UK), 1987; AM, University of Michigan, 1989; PhD, University of California, 1995. University of Toronto.

**Omar Shafey**, Adjunct Assistant Professor. BA, Tulane University, 1984; MPH, San Diego State University, 1992; PhD, University of California, San Francisco, 1997. American Cancer Society.

**Cyrus Shahpar**, Adjunct Assistant Professor. BA, Johns Hopkins University, 1996; MPH, University of California, Berkeley, 1998; MBA, University of California, Irvine, 2007; MD, 2007. US Centers for Disease Control and Prevention.

**Julia Smith-Easley**, Adjunct Assistant Professor. BS, University of South Carolina, 1993; MPH Rollins School of Public Health, 1997. US Centers for Disease Control and Prevention.

**Rob Stephenson**, Associate Professor. BSc, Southampton University 1995, MSc, London School of Hygiene and Tropical Medicine. 1996. PhD, Southampton University 1999.

**Edward Geoffrey Jedediah Stevenson**, Adjunct Assistant Professor. BA, University College of London; MA, Emory University, 2007; MPH, 2011; PhD, 2011.

**Leisel Talley**, Adjunct Instructor. BS, George Washington University, 1995; MPH, Emory University, 2000. US Centers for Disease Control and Prevention.

**Robert V. Tauxe**, Adjunct Professor. BA, Yale University, 1975; MD, Vanderbilt University, 1980; MPH, Yale University, 1980. US Centers for Disease Control and Prevention.

**Justin Basile Echouffo Tcheuguia**, Adjunct Assistant Professor. MPhil, University of Cambridge, 2006; PhD, 2010.

**Peter Teunis**, Adjunct Professor. PhD MSc, Utrecht University, 1982; PhD, 1990. Biostatistician, Centre for Infectious Disease Control, RIVM, Netherlands.

**Basia Tomczyk**, Adjunct Assistant Professor. BSN, University of Minnesota, 1980; MSc, University of California, San Francisco, 1989; MPH, University of California, Berkeley, 1994; DrPH, 1999. US Centers for Disease Control and Prevention.

**Timothy Uyeki**, Adjunct Associate Professor. BS Biology, Oberlin College, 1981; MPP, University of California, Berkeley, 1985; MD, Case Western Reserve University, 1990; MPH, University of California, Berkeley, 1996. US Centers for Disease Control and Prevention. Deputy Chief, Epidemiology and Prevention Branch, Influenza Division.

**Daniel Vermeer**, Adjunct Professor. BA, Hope College, 1988; MA, University of Virginia, 1994; PhD, Northwestern University, 2002. The Coca-Cola Company .

**Bruce G. Weniger**, Adjunct Associate Professor. BA, State University of New York College at Old Westbury, 1970; MPH, University of California, Los Angeles, 1978; MD, 1978. US Centers for Disease Control and Prevention.

**Holly Ann Williams**, Adjunct Assistant Professor. BS, University of Pittsburgh, 1976; MN, University of Washington, 1979; PhD, University of Florida, 1995. US Centers for Disease Control and Prevention. International Emergency and Refugee Health Branch (IERHB)

**Hussain Yusuf**, Adjunct Assistant Professor. MBBS, Dhaka Medical College (Bangladesh), 1990; MPH, Yale University, 1995. US Centers for Disease Control and Prevention.

**James A. Zingeser**, Adjunct Assistant Professor. DVM, Michigan State University, 1979; MPH, University of Michigan, 1989. US Centers for Disease Control and Prevention.

## Global Health Course Descriptions

### **GH 500 (2) Critical Issues in Global Health**

Fall/Spring. Introduces students to cross-cutting issues in global health through a series of cases addressing humanitarian emergencies, maternal and child health in the context of extreme poverty, non-communicable diseases, and pandemics. The course will contextualize current efforts in global health historically and describe likely future trends. Readings will be drawn from a range of disciplinary perspectives and students will work in cross-disciplinary groups. A major goal of this course is to equip students with some critical perspectives and resources they will need as public health professionals and global citizens in our increasingly small and interdependent world.

### **GH 501 (3) Evidence Based Policies Programs and Research**

Fall. The goal of the course is to equip students with critical perspectives to address current and future global health challenges and opportunities as public health professionals and global citizens in this increasingly interdependent world. The course explores historical milestones, actors, assumptions, context and theories driving selected global health priorities in policy, programs and research. To do this, the course will enhance the skills of critical thinking, assessment of evidence from multiple perspectives and application of evidence in formulation of policies, programs and research priorities. A recurring theme throughout the course is that there are common global drivers influencing the health of populations in high, middle and low income countries and that cross-cutting issues of inequality and systems transcend settings. Global Health students only.

### **GH 502 (2) Survey Research Methods**

Fall/Spring. This course provides an introduction to the collection of quantitative data. Taking an applied approach, we learn the entire process of designing a study, including instrument design, sampling methods, budgeting and training, fieldwork components, and data management. Special focus is given to research in less-developed countries and to cross-cultural research. Participants develop their own studies, including survey instruments and method protocols.

### **GH 504 (2) Effective Oral Communication**

Fall. Satisfactory/Unsatisfactory grading. This course is designed to convey the principles and practice of dynamic and persuasive oral communication of scientific information. Its goal is to develop competencies in effective oral communication of scientific research using various techniques to diverse audiences. Course topics include (1) communication as an interactive process; (2) persuasive vis-à-vis informative presentations; (3) distinguishing data, information, and messages; (4) analyzing a target audience; (5) condensing complex messages into soundbite size; (6) effective approaches for visual aids including PowerPoint, YouTube, Prezi, tables, graphs, charts, and photographs; (7) understanding the messages presenters give by their personal image; and (8) strategies for dealing with the media. Students give oral presentations as part of their final grade. No prerequisites.

### **GH 505 (1) Social Entrepreneurship for Global Health**

Fall. Prerequisite: Second-year Global Health students or permission of instructor. GH505 provides an introduction to the relatively new, but fast-growing use a business approaches

to address social problems; micro financing, made famous by Muhammad Yunus, is an example of social entrepreneurship. The course will examine how social entrepreneurs who produce mission-driven products or services can reduce their dependence on government funds and charitable donations. Students will be exposed to case studies from experienced social entrepreneurs, including the lead instructor, and will also develop their own social enterprise plan. Knowledge and skills acquired through the course include: organizational leadership, market opportunity assessment, product/service development, and budgeting.

### **GH 507 (2) Health as Social Justice**

Fall. Offers an interdisciplinary approach to understanding the complexities inherent in improving the health of communities. Examines the multiplicity of social factors that affect health and working models of approaches to favorably alter them. Initiated by students, and cross-listed with the Nell Hodgson Woodruff School of Nursing, the Emory University School of Law, and Candler School of Theology. Emphasis is on enhancing one's life as a professional including both leadership roles and personal dimensions by expanding self-awareness and strengthening critical thinking skills. The pedagogy and class design utilize a participatory, learner-directed approach to education. This approach makes possible an engaged experience with issues fundamental to social justice—power relations, empowerment, and participation.

### **GH 508 (2) Health and Human Rights Seminar**

Spring. Examines a spectrum of issues related to health and human rights including three main topics: health as a human right, the impact of human rights abuses on health, and strategies for the adoption of a human rights framework to public health program planning and practice. Case studies among vulnerable populations of interest to public health professionals in each of these topics are utilized to support critical inquiry into the field of health and human rights.

### **GH 509 (2) Translation and Implementation Science**

Spring. This course aims to introduce students to translation of scientific knowledge into real-world implementation (policy, practice, behavior change). The course covers: determining burdens; identifying proven interventions and barriers that impede implementation; designing innovative and creative solutions, and the studies to test these; and informed decision-making as well as implementation and sustainability. Students will be exposed to case studies of health interventions globally which illustrate theoretical concepts while providing inspiration and motivation.

### **GH 510 (2) Epidemiological Methods in Humanitarian Emergencies**

Spring. Prerequisites: BIOS 500, EPI 530, and GH 512. This course will cover epidemiologic methods used in complex humanitarian emergencies such as rapid assessment, surveillance, survey design (with a focus on cluster surveys) and analysis. In addition, the class will include other topics such as outbreaks in emergencies. Teaching methods will combine lectures and case studies of recent humanitarian emergencies. Classes will be very participatory. Five-day intensive held over spring break.

### **GH 511 (2) International Infectious Diseases**

Spring. Prerequisite: EPI 530. Offers an epidemiological, clinical and public health perspective of selected acute infectious diseases of current national and international interest. Emphasizes the agent, methods of transmission, the host, role of surveillance, and methods of control and prevention.

**GH 512 (2) Health in Complex Emergencies**

Spring. Prerequisites: BIOS 500 and EPI 530. The course covers the technical and management principles that are the basis of planning, implementing, and evaluating health programs for acutely displaced populations in developing countries. Emphasis is placed on refugees in camp situations. The course also includes modules on assessment, nutrition, epidemiology of major health problems, surveillance, and program management in the context of an international relief operation. Five-day intensive held over January break.

**GH 513 (3) Community-Based Participatory Action Research**

Spring. GH 513 provides an introduction to Community-based Participatory Action Research (CBPAR), and similar research approaches – ones that are community-based and community-centered, participatory in their inclusion of community members as protagonists, and action-oriented in the sense that they explicitly seek to promote change. Students will develop familiarity with a range of classical and innovative research approaches, including assets-based approaches such as appreciative inquiry and critical approaches such as autoethnography. The course will be divided roughly in half, with the first half being more instructor-guided and the second half, student-generated and led.

**GH 514 (2) Communicating for Healthy Behavior and Social Change**

Spring. Serves as a practical introduction to the methods and theories used in the development, planning and implementation of communication interventions to promote healthy behavior and social change. Participants learn how to describe and analyze behaviors, conduct formative research, design an intervention strategically, write a creative brief to guide materials design, and develop and pretest materials. Case studies range from community-level group communication to mass media campaigns, and address a range of health issues, with particular focus on sexual and reproductive health, especially HIV/AIDS. Global students only.

**GH 515 (3) Transforming Public Health Surveillance**

Spring. Prerequisite: EPI 530. Teaches the basic principles of public health surveillance, including the establishment of a public health surveillance program, the collation and analysis of data, and the preparation and distribution of a report. Helps students recognize the importance of a direct association between a public health surveillance program and public health action. Helps students become familiar with the use of computers in public health surveillance, with public health surveillance systems conducted in developed and developing countries, and with public health surveillance programs as applied to all public health problems involving either infectious or noninfectious diseases in complex emergencies. Ethical issues are also considered. Cross-listed with EPI 515.

**GH 516 (3) Global Perspectives in Parasitic Diseases**

Fall. Prerequisite: EPI 530 (may be taken concurrently). Focuses on prevalent parasitic infections seen in this country as well as those seen primarily abroad. Topics include parasite lifecycles, immunology, diagnostic methods, clinical manifestations, treatment and follow up, complications, epidemiology, prevention and control, methods of transmission, and future research priorities.

**GH 517 (2) Case Studies in Infectious Disease Epidemiology**

Fall. Prerequisites: EPI 530 and BIOS 500 (may be taken concurrently) or with permission. Provides training in the investigation, control, and prevention of infectious

diseases by both descriptive and analytic epidemiological techniques. Students work with infectious diseases of national and international interest. Cross-listed with EPI 540.

**GH 518 (2) Emerging Infectious Diseases**

Spring. This course provides a domestic and international perspective to topics related to emerging and re-emerging infectious diseases. Subjects include factors for emergence and reemergence; surveillance, epidemiology, laboratory science, preparedness, and response for these infections; and study of specific diseases that exemplify these principles. Class sessions will generally consist of guest lectures and student group presentations. Cross-listed with EPI 562.

**GH 519 (3) Faith and Health: Transforming Communities**

Spring. Serves to help students oriented toward pastoral, social service, and community health roles better understand the theoretical relationship between religious practices at personal and social scale, and the health of the community as a basis for developing and leading practical initiatives. Students become familiar with both religious and health science literature in this area. Examines the characteristics of healthy congregations and the various roles they play that are critical to the formation of coherent and whole neighborhoods and communities. Examines those leadership practices that build the capacity for collaboration between religious organizations, including congregations and their partners in the public sector. Cross listed with SR 698.

**GH 521 (3) Program Management**

Fall. This course is specifically designed for those who will be working in developing countries and/or countries in economic and political transition-working in the public sector, the nongovernmental sector, the community or international organizations. In this course, we focus on two primary resources in any organization or program-people and money-and the processes leading to high performance and quality. While derived from management theory and practice, the focus of this course is less on theory and more on application. This course focused on increasing your ability to analyze, explain and diagnose managerial and organizational dilemmas and generate solutions that are feasible. This will be done primarily through cases, group discussions and exercises. Lectures will provide background and theory.

**GH 522 (3) Qualitative Research Methods for Global Health**

Spring. This course will provide students with practical skills and theoretical principles for conducting and evaluating qualitative research. Weekly sessions will focus on different tasks in the process of conducting qualitative research. This course will include theory and concepts underpinning qualitative research, qualitative research design, ethical considerations and challenges, instrument design, key data collection methods used in public health (interviewing, group discussions and observations), and summarizing and presenting data. The course provides instruction on the challenges of applying qualitative methods in international settings and guidance on fieldwork planning and implementation to assist students in preparing for their practicum activities. This course uses a variety of approaches to foster the development of practical skills in qualitative research; formal lectures, interactive group sessions, discussions with experts, and task-based assignments. This course is a prerequisite for Qualitative Data Analysis (GH525).

**GH 524 (2) Health Systems Performance and Health Systems Financing Methods and Evidence**

Spring. Prerequisite: GH 501. Introduces the major policy issues in health care financing for developing countries and transition economies. Topics include models of health care financing used by countries; performance of the systems with respect to equity, efficiency, and effectiveness; evaluation of current financing and health sector reform proposals; and redefinition of the roles of government and the private sector. Investigates health care financing in the economic, political, and social contexts of the country-specific health system reform efforts and broader themes in international development.

**GH 525 (3) Qualitative Data Analysis**

Fall. Prerequisite: GH 522 or equivalent. This course is designed to provide students with the theoretical principles and practical skills for analyzing qualitative data. The course will provide an overview of the theoretical principles of qualitative data analysis, and practical tasks of data preparation, data analysis, writing and presenting data. Students will develop skills in using MAXQDA10 software to analyze qualitative data through weekly lab sessions. During the course students will learn techniques for analyzing qualitative data through guided classroom activities, lab sessions and structured assignments. The course is ideal for second year MPH students who collected qualitative data during their summer practicum; students without their own data may use a class data set. Each student will work with their individual data in course assignments.

**GH 526 (3) Interdisciplinary Perspectives on Human Rights**

Fall. Open to students from all of the graduate and professional schools. Examines the theory and practice of global and human rights from an interdisciplinary perspective. Examines issues of history, origins, and legitimacy of universal human rights, and discusses standards, institutions, and processes of implementation. Examines human rights across a variety of substantive areas, including: conflict, development, globalization, social welfare, public health, and rights of women and other vulnerable groups.

**GH 529 (2) Water and Sanitation in Developing Countries**

Spring. Provides students with techniques needed to develop, evaluate, and sustain successful drinking water and sanitation interventions for developing countries. Focuses on practical field and laboratory tools needed for different stages of projects, including: assessment of perceived and actual need, alternative strategies for different environmental settings, assessing cost and financial sustainability of projects, laboratory and field techniques for assessing exposure to microbial and chemical agents, and measuring health outcomes (for baseline or effectiveness assessment). Includes lectures, extensive case studies, and field and laboratory exercises.

**GH 530 (2) The GEMMA Seminar: The Global Elimination of Maternal Mortality from Abortion**

Spring. Students will develop skills in abortion and maternal mortality measurement using WHO and CDC criteria in populations with safe or unsafe abortions. Students will also use case studies to evaluate the influence of political and legal decisions, ethics, human rights conventions, social justice and religious approaches on abortion practice, contraception, post-abortion care, and abortion-related mortality. They will use Values Clarification and Attitudes Transformation (VCAT) techniques to clarify and inform their own values on abortion. They will learn to describe the impact of terminology

and values on national and international abortion debates, describe/learn about clinical abortion services and treatment for unsafe abortion, develop grant proposals to support program activities that prevent abortion mortality, and develop well-articulated arguments to advocate for the global elimination of maternal mortality from abortion.

**GH 531 (1) Mental Health in Complex Humanitarian Emergencies**

Fall. Prerequisites: GH 510 and GH 512. This course covers essential principles necessary to understand and address mental health issues in complex humanitarian emergencies. Using epidemiological and ethnographic approaches, the course will highlight mental health surveys; outcome evaluation methods; best practices and evidence-based interventions for beneficiary populations; and preparation and training for emergency responders and aid workers. Three day intensive held over December weekend.

**GH 532 (1) Risk Communications for Global Public Health Emergencies**

Fall. The objective of the course is to encourage and facilitate improved risk communication for public health emergencies among public health authorities and partner organizations through the building of risk communication core capacities as part of the surveillance and response requirements of the International Health Regulations (IHR).

**GH 533 (1) Preparedness and Planning for International Emergencies**

Spring. This course covers the essential principles of emergency preparedness and planning in the international context. Students will become familiar with concepts of Sphere standards, cluster system, Incident Command System (ICS), emergency operation plan development, and tabletop exercises. The common pitfalls and challenges of emergency preparedness and planning will be discussed. Students will have the opportunity to review an existing plan and tabletop exercise and provide input for their improvement. Two-day intensive held over February weekend.

**GH 534 (2) Diabetes: A Model for Global Non-communicable Disease Prevention and Control**

Spring. Provides students with both content and skills in the field of diabetes, a pandemic of international public health concern, which encourages effective public health programming for diabetes and other chronic diseases. Through a uniquely public health approach, examines a spectrum of issues related to chronic diseases, such as diabetes, and address the implications for public health practice. Published papers on each of these topics are utilized throughout the course to support critical inquiry into the burgeoning field of diabetes public health.

**GH 535 (2) Field Epidemiology**

Spring. Prerequisite: EPI 530. Uses a series of case studies to teach the principles and practice of epidemiology, ranging from surveillance and descriptive epidemiology to outbreak investigations and analytic methods. Focuses on the use of sound epidemiological judgment. Cross listed with EPI 535.

**GH 536 (3) Religion and Health in Context: HIV**

Spring. This course will explore the ways in which religion has been utilized over the last twenty-five years to make sense of the HIV epidemic and to mobilize or hinder productive responses. These processes of making meaning and responding have occurred in a variety of contexts; the course will critically explore a broad spectrum of religious, political, and public health contexts to demonstrate the ways in which religion is invoked in response to questions and practices of health and wellness. The readings for the course are designed to introduce the class topic and students are expected to complete assigned readings prior to

class. In many instances, class time will include lecture and discussion of readings but at other times, the class sessions will function to develop ideas introduced in the readings more fully. In other words, students should not expect the class sessions merely to fully summarize assigned readings. Written assignments are designed to test not only students' knowledge of the material but also their ability to integrate that knowledge with critical reflection on both theory and practice.

#### **GH 538 (1) Food and Nutrition in Humanitarian Emergencies**

Spring. Prerequisites: BIOS 500, EPI 530, and GH 512. Malnutrition during humanitarian emergencies, including acute malnutrition and micronutrient deficiencies, is very common. This course will discuss how organizations decide when, what type, and how much food to distribute during crisis. It also will address other programs that are used to prevent malnutrition, how organizations concerned with nutrition evaluate nutritional status in individuals and populations and the various types of feeding programs that are implemented in emergency situations. The course will include practical field exercises on nutrition as well as visits by guest practitioners from the field. Five-day intensive held in August.

#### **GH 539 (2) Reproductive Health Program Management**

Fall. This course fulfills one of the three core course options for the Sexual & Reproductive Health and Population Studies concentration in the Global Health program as well as the Reproductive Life component of the Maternal and Child Health certificate, and is an elective course available to all students. This course introduces the history, ethical dimensions, and scope of reproductive health problems, programs and policies. It provides case studies to examine implementing important programs in socially diverse settings. Students will learn skills in program development, budgeting, monitoring, evaluation and using logic models. Assignments include evaluating local logistics for health supplies and applying Jim Collins' Good to Great criteria in evaluating organizations. Students will apply learned skills in final case study of fistula care in India.

#### **GH 541 (2) Technology of Fertility Control**

Fall. Covers the effectiveness, benefits and WHO/CDC/ACOG guidelines for contraceptive methods—and recent efforts to improve use of effective contraception in the United States. Includes historical and ethical perspectives on contraception policies, laws, and accessibility throughout the world—and their impact on fertility. Includes information on Norplant implants, morning-after approaches to birth control, the reversal of sterilization procedures, abortion, withdrawal, and male and female condoms. Will include a case study including program planning and budgeting for providing improved contraception in response to the Zika epidemic in Puerto Rico.

#### **GH 543 (2) Fundamentals of Qualitative Data Analysis**

Fall. This course will provide an intensive overview of qualitative data analysis including the use of MAXqda software. On completing the course, students will be able to assess the quality of a qualitative data set, define objectives for a specific analysis project, develop and implement an approach using appropriate tools of analysis (e.g., segments, codes, memos, variables), and develop descriptive and comparative accounts of project findings. In addition to lectures and conceptual discussions, the course will incorporate applied exercises using secondary data and MAXqda10 software in order to develop student skills in handling real-life textual data, implementing analysis procedures and techniques with software, and working in a team-based analysis setting.

#### **GH 544 (2) Field Trials and Intervention Studies**

Fall. This course will develop understanding of design, conduct, and analysis of field trials and intervention studies. The course will focus on methods relevant to community and facility based trials in resource poor settings. However, several skills covered in this course will also be applicable to field and clinical trials in developed countries.

#### **GH 545 (3) Nutritional Assessment**

Spring. Provides an overview of methods for assessing the nutritional status of both individuals and populations for purposes of etiologic research and disease prevention and control. Teaches the use of biochemical, anthropometric, and questionnaire methods for assessment of diet, body composition, physical activity, and biochemical characteristics. Research methods appropriate for measurement of any exposure in epidemiological or population studies are given special emphasis, including standardized data collection procedures, quality control, assessment of validity and reliability, and analytic methods to assess the effect of measurement error and to adjust for its effects when examining relations among variables. Covers methods for both acute and chronic disease.

#### **GH 546 (3) Maternal and Child Nutrition**

Spring. Emphasizes the significance and role of nutrition during pregnancy, lactation, and childhood in developing countries. Discusses the role of programs in developed countries.

#### **GH 548 (6) Human Nutrition I**

Fall. Prerequisites: one year of biology and organic chemistry and permission of instructor. The goal of the course is for students to learn the fundamental principles that underlie nutrient regulation and function and their integrative role in metabolic pathways. This course will address macronutrient requirements and how nutrient biochemical and metabolic processes are implicated in health and disease pathology as well as the potential for disease prevention or management through nutrient-dependent processes. These objectives will be accomplished by lectures and discussion sessions that focus on the basic principles of nutrient requirements, cell biology, physiology and biochemistry relevant to nutrition, followed by the role of macronutrients in health and disease. Cross-listed with IBS 580.

#### **GH 549 (6) Human Nutrition II**

Spring. Prerequisites: chemistry, undergraduate biology, and permission of instructor. Provides a graduate-level introduction to human nutrition and disease, at both the clinical and research levels, and an understanding of the experimental bases for current clinical nutritional practice. Cross-listed with IBS 581.

#### **GH 550 (2) Epidemiology and Dynamics of STD and HIV Transmission**

Fall. Explores the social, biologic, and public health issues of sexually transmitted diseases and their overall importance in public health. Topics include the basic biology and epidemiology of the major STDs, the implication of transmission models for prevention, and psychosocial, behavioral, and economic aspects of STD/HIV. Cross-listed with EPI 550.

**GH 551 (2) Diet and Chronic Disease**

Fall. Provides an overview of the epidemiology of the intersections among diet, physical activity, obesity, and chronic disease from a life course and global perspective and the potential for policy level and individual level approaches to address the key diet-related diseases of our time—cancer, cardiovascular disease, and diabetes. Discusses changes in the prevalence of diet-related chronic disease and the potential for preventive measures in both developing and developed countries.

**GH 552 (2) Global Elimination of Micronutrient Malnutrition (MNM)**

Fall. Provides an understanding of the causes and consequences of global micronutrient malnutrition, including its complex biological, social and economic determinants. Describes policies, strategies, programs, and projects aimed at eliminating maternal and child MNM, including evidence of efficacy and effectiveness. Defines roles and responsibilities of the public, private and non-profit sectors in implementing national programs and advocating for MNM elimination. Describes available systems for MNM monitoring and evaluation.

**GH 553 (2) Vision Health—A Global Perspective**

Spring. The purpose of the course is to provide basic knowledge of the epidemiology of the major causes of vision loss globally as well as knowledge of what can and is being done to prevent vision loss from these causes. The need for a multidisciplinary approach will be emphasized and vision loss makes a good model for other public health problems, especially non-communicable diseases. Reading from literature (available online to Emory students) will be assigned daily. Teaching methods will be a mix of didactic lectures by faculty, cases studies for discussion, and student presentations. All students will be expected to use suggested reading materials to prepare short presentations on specific topics for the class.

**GH 555 (2) Proposal Development**

Spring. Over the course of the seven week class, students will develop an NIH-style research proposal. Enrollees in the class will learn the following skills: identifying appropriate literature for designing and supporting your research questions; formulating aims and hypotheses for research; selecting appropriate methodologies to answer your research questions; planning field work, timelines and simple budgets; clear and concise scientific grant writing; and peer review. Individual class projects can be used as the basis for seeking funding for research projects including summer practicums.

**GH 558 (2) Global Issues in Antimicrobial Resistance**

Spring. Develops tools to understand the microbiological, behavioral, and economic factors that contribute to the expanding epidemic of infectious diseases which may become untreatable due to the emergence of resistance. Provides a framework for intervention studies. Cross-listed with EPI 558.

**GH 559 (3) Gender and Global Health**

Spring. This course provides an overview of theories, case studies, and social interventions related to gender and global health, with a focus on poor settings. Students are exposed to major theories in the social sciences and public health that have advanced an understanding of the institutional and ideological bases of gender inequities and of the power dynamics within couples and families that influence women's and men's health and wellbeing in these settings. The theoretical and empirical underpinnings of existing social policies and interventions intended to empower women in resource-poor countries are stressed, and case studies of the health-related consequences of these policies and interventions are discussed. By the end of the course, students will have developed the ability to evaluate critically and to identify the relationships between theory, evidence, and social interventions related to gender and health in poor settings.

**GH 560 (3) Monitoring and Evaluation of Global Public Health Programs**

Fall. Provides students with the technical skills to conceptualize and design process and impact evaluations of international public health programs or projects. Helps students understand the role of monitoring and evaluation in policy analysis, planning, program design and management.

**GH 561 (3) Applications of Public Health Economics in Low and Moderate Income Countries**

Fall. Prerequisites: GH 500 or GH 501. This course is an applied course that uses economic theory and concepts to focus on critical public health issues in low and moderate income countries, particularly focusing on public goods, their use and provision. We will also apply evolving theories of behavioral economics to decisions faced by individuals and households in very resource constrained environments using examples and cases from sub-Saharan Africa, Latin America, south and central Asia where the greatest proportion of those living in absolute poverty reside.

**GH 562 (1) Epidemiology of Tuberculosis**

Spring. Prerequisite: EPI 530. Provides training in domestic and international public health aspects of tuberculosis, its epidemiology and diagnosis, theory and practice of treatment and means of prevention in developed and developing countries, and the interaction between HIV and tuberculosis. Cross listed with EPI 542

**GH 563 (2) AIDS: Global Public Health Implications**

Fall. This course explores the history of AIDS, changing trends in global epidemiology, recent advances in HIV clinical and social sciences, and the challenges to and multidisciplinary strategies for addressing the global HIV epidemic in the next 20 years. It will utilize a 'reverse classroom' methodology with on-line lectures and documentaries, interactive classroom discussions with global health experts, and site visits to local HIV organizations.

**GH 564 (2) Public Health Preparedness**

Fall. This course will acquaint students with the comprehensive nature of public health preparedness and response efforts for disasters whether natural or man-made. We discuss all aspects of public health preparedness and include discussions of specific preparedness elements necessary for responses to natural disasters and man-made events including deliberate or unintentional biological, chemical, or radiologic incidents. Ethical and legal issues related to preparedness and bioterrorism are also discussed. The course includes several in-class case exercises. Students interested in public health preparedness, infectious diseases, and bio-defense are encouraged to take this course. This course is cross-listed with EPI 564.

**GH 566 (2) Immunization Programs and Policies**

Spring. Provides an introduction to the basic scientific epidemiologic, economic, programmatic, and political aspects of vaccines and immunization. Emphasizes immunizations in the developing world, with examples also drawn from US experience. Cross-listed with EPI 566.

**GH 567 (2) Shaping a Healthy Global Food System through Policy**

Alternating Spring. Determinants of food consumption are complex but heavily influenced by policy. This course will explore the policies that influence health through their shaping of local and global food systems, including state/local, national, international, and institutional policies. Students will evaluate strategies to improve the policy landscape for nutrition and health and through case studies will gain skills in policy analysis and various styles of policy-writing.

**GH 568 (3) Community Engaged Food Security**

Alternating Spring. Determinants of food choices are complex but a primary determinant is access. Limited access to healthy foods at individual, household, and community level is associated with a range of health outcomes including malnutrition, depression, exposure to infectious diseases and chronic disease. This course will explore the determinants and outcomes of access to healthy foods, evaluate the effectiveness and sustainability of existing food security strategies, and conduct community-engaged research in local communities on food access issues. State, national, and international policies and their influence on food access will be explored. Community-based strategies to ameliorate food access issues will be explored.

**GH 569 (2) Population and Development**

Fall. This course provides an introduction to population dynamics and international development as important contexts of public health. Participants will learn about how issues such as economic growth, environmental change, international politics, and culture interact with population forces such as fertility, aging, mortality, and migration, in ways that affect health and public health practice. The course will provide an introduction to concepts and methods from demography to basic data analysis using Stata. Training will include lectures and structured debates, reading and discussion of published research and policies, and critical research and writing.

**GH 571 (2) Vaccines and Vaccine-Preventable Diseases**

Fall. This course will develop in-depth understanding of epidemiological, biological, and applied aspects of commonly used vaccines and vaccine preventable diseases (VPDs) of public health importance. The course content will be structured to review specific vaccines and VPDs (rather than overarching aspects of immunization programs covered in GH 566/EPI 566). Where relevant, the course lecturers will use examples from both developed and developing countries.

**GH 572 (2) Community Transformation: A Five-day Experiential Workshop on Partnerships and Empowerment**

Spring. Registration for the course is by application only. Through participatory learning, this course introduces a process that can be used to help communities identify and reflect on their key issues and take action. Additionally, it expands the understanding of methods for community empowerment and facilitates through group exercise and reflection approaches to the community empowerment process.

**GH 574 (2) Malaria Prevention, Control, and Treatment**

Spring. This course will offer a practical introduction to the prevention, control and treatment of malaria. Participants will understand the biology of both the malaria parasite and the mosquito vector, and how their interactions with the human host result in the epidemiology of malaria. In addition, this class will review the history of malaria control and current prevention and control activities, to include vector control, reducing the burden of malaria in pregnancy and case management. There will be practical sessions related to vector control and malaria diagnostics. Teaching methods will combine lectures and practical lessons

**GH 580 (2) Environmental Health Microbiology: Control of Food and Waterborne Diseases**

Spring. Introduces the major disease-causing microorganisms in the environment and their transmission through water, food, and air. Describes the organisms, pathogenesis, clinical diseases, reservoirs, modes of transmission, and epidemiology and surveillance systems. Discusses the transport, survival, and fate of pathogens in the environment, the concept of indicator organisms as surrogates for pathogens, and the removal and inactivation of pathogens and indicators by water and wastewater treatment processes. Presents examples of the public health impact of foodborne and waterborne diseases in developing countries. Cross-listed with EH 546.

**GH 581 (0) HIV/AIDS Seminar**

Spring and fall. Offered exclusively to International Fellows. The HIV/AIDS Seminar is designed as a forum for Fellows participating in an international fellowship program (Humphrey, Foege, Muskie, Fogarty, etc.) to engage in open discussion regarding topics related to HIV/AIDS with one another and with experts in

the field. Weekly discussions will be led by representatives from RSPH, Emory, the CDC, and from organizations across Atlanta. Topics will vary to cover a range of issues related to HIV/AIDS. The seminar will also include site visits to various organizations and facilities in the Atlanta metropolitan area related to HIV/AIDS service and research.

**GH 582 (2) Global Climate Change: Health Impacts and Response**

Fall. Explores the role of global climate change in changing patterns of infectious disease transmission, water and air pollution, drought, extreme precipitation and heat, and loss of coastal and arable land. The particularly serious vulnerability to climate change among developing world populations will be emphasized, as will the largely developed country emission sources driving the phenomenon. Topics include a review of the public health effects of global climate change, epidemiologic and other methods for understanding and studying these effects, the public health adaptation response, and health impacts of potential mitigation efforts and activities. Cross-listed with EH 582.

**GH 584 (2) Evidence-Based Decision Making with Principal Focus on Immunization, Infectious and Chronic Diseases**

Spring. In medicine and public health, decisions constantly have to be made – should a particular drug be licensed? Does a particular vaccine need a universal or a targeted recommendation? What screening tests should be routinely performed? For each of these decisions, there is a tremendous amount of information that needs to be addressed, assessed, and deliberated on. This course is designed to provide an overview of these processes and related deliberative bodies to help future public health professionals understand how their research and practice are used in evidence-based decision making.

**GH 591L (2) Methods in Nutritional Epidemiology**

Spring. Pre-requisites: EPI 530, EPI 533 or instructor permission. Experience with SAS preferred. This course is designed for students interested in studies of diet and health outcomes. The course provides an overview of methods for estimating dietary intakes. Issues related to the collection, processing, analysis and manipulation of dietary data in relation to foods dietary patterns, nutrients, and dietary supplements will also be addressed. Students will also have the opportunity to apply methods for manipulating dietary data including understanding variation in diet, comparing methods for energy adjustment, manipulating raw data to create food grouping variables for dietary pattern analysis and calculating a dietary score. Cross listed with EPI 591L.

**GH 591Q (1) Epi Info**

Spring. Epi Info is a data entry and analysis program developed by the Centers for Disease Control and Prevention that runs under the Microsoft Windows operating system. Available for download free of charge, Epi Info is widely used by public health professionals and is a popular choice in low resource settings. The purpose of this class is to provides an overview of the main Epi Info programs including the creation of data entry screens, the construction of databases, data storage and analysis.

**GH 592 (1) Successful Scientific Writing for Public Health Professionals**

Spring. Satisfactory/unsatisfactory grading. This course takes an active, participatory approach to learning how to communicate the findings of scientific research and investigations more effectively in writing and expedite the publication of peer-reviewed manuscripts. With approximately 21 contact hours of in-class instruction, problem solving, and practical application, it is conducted in weekly, three-hour sessions over the course of the first 7-weeks(or the half) of the Springs semester. Working in small

groups, students spend much of their class time critiquing actual published and unpublished manuscripts, including their own, and solving a wide range of exercises that exemplify the real-world challenges that authors face. Free-form, in-class discussions make it possible for class members to learn from one another's experiences. Students bring to class a draft thesis, study data, or a draft manuscript in development. They will be required to turn this material into a manuscript ready for submission to a peer-reviewed journal.

**GH 593 (2) Religion and Health in Context: Sexual and Reproductive Health**

Fall. This course will offer a sustained critical analysis of the complicated relationship between religion and sexuality, particularly in relation to issues of central concern to sexual and reproductive health. In the course students will examine the teachings of Christianity and Islam on sexuality from global perspectives, place those teachings in historical contexts, critically assess the impact of those teachings in the context of sexual and reproductive health initiatives in both national and international contexts, and work to align religion and sexual and reproductive health initiatives through group projects and case studies.

**GH 594 (2) Opportunities in Global Cancer Prevention and Control**

Fall. Prerequisites: Completed or concurrently enrolled in EPI 504, 505, or 530. The goal of this course is to provide students with an understanding of the global elements of cancer prevention and control. As a leading cause of mortality and morbidity worldwide, cancer is increasingly being identified as a key concern for global health and an important development issue. This course will cover fundamental topics in global cancer prevention and control, including: cancer control planning, cancer surveillance, economic evaluation, primary and secondary prevention strategies, and policy interventions. The course will emphasize the applicability of existing cancer research and evidence-based practice to resource-limited settings. Class meets last half of fall semester.

**GH 595R (0) Practicum**

All. Complements academic training with practical, hands-on experience. All students must complete 200 hours of practical public health experience relevant to the field of global health prior to receiving clearance for graduation. Along with registering this course students are required to enter practicum information in the Practicum Web Client.

**GH 596 (3) Foundations in Maternal and Child Health**

Fall. This is the foundational course for the Maternal and Child Health Certificate. It covers historical and theoretical underpinnings of maternal and child health problems and programs aimed to reduce morbidity, mortality, and health disparities. Skills in program planning and evaluation are taught through multidisciplinary teams working with academic and field-based faculty in local, state, federal, and nongovernmental agencies. Maternal and child health is defined as a field of public health that addresses underlying forces for these problems, the historical framework for ameliorating those problems, and current programs and policies that have evolved from that historical context. Maternal and child health programs are unique to reproduction and life course development; more common in women, infants, children, or adolescents; more serious in women, infants, children, or adolescents; or have manifestations, risk factors, or interventions that are different in women or during life course development.

**GH 597R (1–3) Directed Study**

All. Provides the opportunity to pursue a specialized course of study in an area of special interest. Complements rather than replaces or substitutes for course work.

**GH 598R (4) Special Studies Project**

All. A special studies project is a project that is developed in response to a particular need or request from an organization or agency. It results in a deliverable, a product that is specific to the sponsoring organization. An SSP is not hypothesis driven research nor does it result in generalizable findings but is the result of a rigorous, approach to problem-solving, policy development and implementation or an innovative project that advances the practice of global health in new and creative directions. The primary purpose of an SSP is to produce significant products that drive the practice of global health. These projects meet the final culminating experience requirement in Global Health and are completed in lieu of a thesis.

**GH 599R (4) Thesis**

All. Students prepare a research thesis or a systematic review of the literature that embodies original work applicable to public health. It incorporates a proposition that has been successfully evaluated with appropriate statistical techniques, and is potentially publishable or has potential public health impact.



## Executive Master of Public Health

[www.sph.emory.edu/emph](http://www.sph.emory.edu/emph)

Melissa (Moose) Alperin, Chair

The Executive Master of Public Health (EMPH) is a distance-based master of public health program designed to meet the needs of public health professionals and other professionals with a strong interest in the field. The forty-two credit-hour program allows working professionals with at least three years of professional experience to remain employed while pursuing an advanced degree that will enable them to remain competitive and meet the challenges of public health in the future.

The master of public health (MPH) degree can be earned in two years (six semesters). The Executive MPH program requires students to attend classes on campus for three days at the beginning and end of each semester. All other course work is delivered online through web-based course management software. Courses are highly interactive and work is often collaborative.

Students are required to take a number of core courses designed to address the core competencies of public health practice. Core courses include biostatistics, epidemiology, health policy, social behavior, environmental health, and global health. Students also complete a practicum and a culminating experience (thesis or capstone). In addition to the core requirements, students choose one of three areas of concentration: Applied Epidemiology, Applied Public Health Informatics, or Prevention Science.

### Admission Requirements

Students may enter the EMPH program from a variety of professional backgrounds, but must have a minimum of three years of professional public health or related experience. Admission is based on appropriate experience, prior academic performance in postsecondary education, abilities assessed by standardized tests (GRE or MCAT), and a commitment to working in public health. New students are admitted in the fall semester.

### Core Requirements

Course Number	Course Title	Credit Hours
<b>BIOS 503D*</b>	Introduction to Biostatistics	2
<b>or BIOS 516D</b>	Applied Biostatistics I	2
<b>BSHE 504D</b>	Social Behavior in Public Health	2
<b>EH 500D</b>	Perspectives in Environmental Health	2
<b>EPI 504D**</b>	Fundamentals of Epidemiology	2
<b>or AEPI 530D</b>	Applied Epidemiology I	3
<b>GH 500D</b>	Addressing Key Issues in Global Health	2
<b>HPM 500D</b>	Introduction to the US Health Care System	2
<b>PRS 500D</b>	Strategies and Resources for Online Learning	0

\*Applied Epidemiology and Applied Public Health Informatics students take BIOS 516D. (versus BIOS 503D)

\*\*Applied Epidemiology students take AEPI 530D (versus EPI 504D)

## Practicum

A practicum is a unique opportunity for EMPH students to integrate and apply practical skills and training learned through course work and prior experiences in a professional public health work environment. A practicum is a significant educational experience that generally requires 200 to 400 clock hours in a public health agency, institution, or community under the supervision of site administrators and the guidance of the EMPH program, the Office of Applied Public Health, and/or Career Services.

Course Number	Course Title	Credit Hours
PRS 595R	Practicum	2

## Culminating Experience

As the culmination of their educational experience, students will work with a faculty adviser to design a culminating experience that demonstrates the student's mastery of a public health discipline that is relevant to his or her short and long-term career objectives. Students in the Applied Epidemiology track will complete a research thesis. Students in the Applied Public Health Informatics track will complete a series of 2 capstone courses. Students in the Prevention Science track may select between completing a thesis or a series of two capstone courses.

Course Number	Course Title	Credit Hours
<b>AEPI 599R</b>	Thesis--Applied Epidemiology	4
<b>or PRS 599R</b>	Thesis--Prevention Science	4
<b>APHI 580D</b>	PH Informatics, Leadership and Strategy Capstone	2
<b>APHI 581D</b>	Advanced Data Science and Decision Support Capstone	2
<b>PRS 561D</b>	Public Health Advocacy Capstone I	2
<b>PRS 562D</b>	Program Planning Capstone II	2

## AREAS OF CONCENTRATION

### Applied Epidemiology Track

The Applied Epidemiology track is geared to meeting the needs of the student who anticipates working as an epidemiologist in a practice-based setting. While the practice setting envisioned in developing this curriculum is a national, state/regional, or local government public health agency, practice settings also may include health care institutions, pharmaceutical or other health care industry companies, international agencies, or foundations where epidemiologists are employed. In addition to addressing the core competencies that are part of all EMPH training at the Rollins School of Public Health, the curriculum also addresses the applied epidemiology competencies developed by the Council of State and Territorial Epidemiologists. In addition to core courses, applied epidemiology students take the following courses:

Course Number	Course Title	Credit Hours
<b>AEPI 515D</b>	Introduction to Public Health Surveillance	2
<b>AEPI 530D</b>	Applied Epidemiology I	3
<b>AEPI 534D</b>	Applied Epidemiology II	3
<b>AEPI 536D</b>	Epidemiological Modeling	3
<b>AEPI 538D</b>	Applied Data Analysis	2
<b>AEPI 540D</b>	Case Studies in Infectious Disease	2
<b>AEPI 545D</b>	Maternal and Child Health Epidemiology	2
<b>or AEPI 555D</b>	Chronic Disease Epidemiology	2
<b>AEPI 565D</b>	Advanced Modeling	2
<b>APHI 501D</b>	Applied Public Health Informatics	2
<b>BIOS 516D</b>	Applied Biostatistics I	2
<b>BIOS 517D</b>	Applied Biostatistics II	2
<b>BIOS 518D</b>	Applied Biostatistics III	2

### Applied Public Health Informatics Track

**Credit Hours** The Applied Public Health Informatics track is designed for working professionals who have a background in either public health or computer or information science and/or technology. Public health informatics is the systematic application of information and computer science to public health practice and research. The track is designed to provide students with the foundational principles, terminologies, and methodologies as well as an in-depth application of data sources, tools, and policies as they relate to the emerging field of public health informatics. Students also will learn to design and evaluate components of public health information systems, to create and manage informatics projects for successful outcomes, to develop evaluation and research skills, and to enable informatics solutions to facilitate decision making. In addition to core courses, Applied Public Health Informatics students take the following courses:

Course Number	Course Title	Credit Hours
<b>AEPI 515D</b>	Introduction to Public Health Surveillance	2
<b>APHI 520D</b>	Introduction to Public Health Informatics	2
<b>APHI 525D</b>	Overview of Data Sources, Standards and Information Systems	2
<b>APHI 527D</b>	Public Health Technology Systems and Architectures	3
<b>APHI 535D</b>	Project Management and System Lifecycle	3
<b>APHI 540D</b>	Data Management and Enterprise Architecture	2
<b>APHI 545D</b>	Information Security, Privacy, Legal, and Ethical Issues	2
<b>APHI 550D</b>	Business and Communication Aspects of Public Health Informatics	3

<b>APHI 555D</b>	Applied Public Health Informatics Evaluation and Research	2
<b>APHI 580D</b>	Informatics in Support of Public Health Leadership Strategy and Management	2
<b>APHI 585D</b>	Informatics Solution for Public Health Decision Making	2

## Prevention Science Track

The Prevention Science track provides the EMPH student with the foundations of behavioral theories, program planning, research design, evaluation, and health communication through traditional and emerging technologies. Students will acquire the skills necessary to plan, implement, and evaluate community programs, and to communicate health and behavioral information. The Prevention Science curriculum prepares students in the essential public health services and competencies. The courses place a strong emphasis on application of prevention science knowledge, behavioral theories, and models to real-life public health situation and settings. In addition to core courses, prevention science students take the following courses:

Course Number	Course Title	Credit Hours
<b>AEPI 515D</b>	Introduction to Public Health Surveillance	2
<b>APHI 501D</b>	Applied Public Health Informatics	2
<b>PRS 505D</b>	Integrated Communication Strategies	2
<b>PRS 532</b>	Qualitative Methods	2
<b>PRS 535D</b>	Questionnaire Design and Analysis	2
<b>PRS 538D</b>	Community Needs Assessment	3
<b>or PRS 540D</b>	Conduct of Evaluation Research	3
<b>PRS 575D</b>	Planning and Performance Measures for Non-Profits and Other Local Agencies	3
<b>PRS 580D</b>	Research Design and Grant Preparation	3
<b>PRS 542D</b>	Curriculum Development for the Public Health Workforce	3
<b>PRS 561D</b>	Public Health Advocacy Capstone	2
<b>PRS 562D</b>	Program Planning Capstone	2
<i>Pick one</i>		
<b>PRS 530D</b>	Quantitative Analysis	2
<b>PRS 533D</b>	Qualitative Analysis	2

## Executive Master of Public Health Faculty and Instructors

**Melissa (Moose) Alperin**, Chair of Executive MPH Program and Research Assistant Professor. BA, Brown University, 1988; MPH, Emory University, 1991; EdD, University of Georgia, 2015. Public

health workforce development, competency-based instruction, distance education and online instruction, scholarship of teaching and learning.

**Greg Anderson**, Adjunct Instructor. BS, University of Tennessee, 1995; MS, 1998; MPH, Emory University, 2004. Infectious disease surveillance, resource allocation, quality improvement methodologies, bioterrorism preparedness and response, and molecular genetics of antimicrobial resistance.

**Karen Andes**, Assistant Professor. BA, Arizona State University, 1987; MA, Northwestern University, 1989; Graduate Certificate, Northwestern University, 1990; Graduate Certificate, Northwestern University, 1994; PhD, Northwestern University, 1994. Adolescent and child health, behavior and health, community-based research, global health, HIV/AIDS, health promotion, maternal and child health, public health practice, public health preparedness, sexual behavior, Latino health, Latin America, health disparities.

**Grant T. Baldwin**, Adjunct Associate Professor. BA, University of Michigan, 1994; MPH, Emory University, 1996; PhD, University of Michigan, 2003. Unintentional injury prevention, application of behavioral and social science theory, community-based participatory research, community needs assessment, behavioral and social science research methods.

**Dana B. Barr**, Research Professor. BS, Brenau College, 1987; PhD, Georgia State University, 1994. Biomarkers, biomonitoring, exposure assessment, analytic chemistry, pesticides, and other hazards.

**Jose N. G. Binongo**, Research Associate Professor. BS, Ateneo de Manila University, 1984; MS, Sophia University, 1990; MEd, University of Virginia, 2004; PhD, University of Ulster, 2000. Statistical modeling of biomedical and public health data, applications of statistics in literature and linguistics, statistics education

**Linelle Blais**, Prevention Science Track Director and Associate Research Professor. BA, Rhode Island College, 1986; PhD University of Rhode Island, 1993. Individual and organizational change, program development and evaluation, and translation of science to practice.

**Dewey A. Blaylock**, Affiliated Instructor. BS, University of West Florida, 1978; MS, University of West Florida, 1980. Laboratory information management systems, public health information security, healthcare information flow modeling.

**Paula A. Braun**, Affiliated Instructor. BA, University of Toledo, 2003; MS, University of Toledo, 2005; MS, North Carolina State University, 2013. Informatics, analytics, data mining and data visualization.

**Lewis Brodnax III**, Affiliated Instructor. BA, Duke University, 1999. Informatics, enterprise architecture, information and computer security, cloud computing and data visualization.



**Lisa M. Carlson**, Affiliated Instructor. Master Certified Health Education Specialist. BA, Yale University, 1992; MPH, Emory University, 1993. Ethics, qualitative methods, research administration, collaboration.

**W. Michael Caudle**, Assistant Professor. BS, Colorado State University, 1998; PhD, Emory University, 2007. Environmental sciences, neurotoxicology.

**Kelley G. Chester**, Affiliated Professor. BBA, Georgia Southern University, 1993; MPH, 2007; DrPH, 2010. User-centered design, collaborative design and reengineering of business processes in public health, electronic health records, meaningful use, public health informatics training for professionals in the field.

**Cari Jo Clark**, Assistant Professor. BA, University of Kansas, 1996; MPH, Yale School of Public Health, 1999; ScD, Harvard School of Public Health, 2005. Health effects of exposure to child maltreatment and intimate partner violence and the design and evaluation of violence prevention strategies in low and middle income countries.

**J. Mark Conde**, Associate Director (APHI Track) and Assistant Dean for IS. BA, Hiram College, 1980. Public health informatics, laboratory informatics, biosurveillance and preparedness information systems, theoretical and practical aspects of public health information systems development.

**KC Decker**, Affiliated Instructor. BA, Auburn University, 2001; MS, Georgia Institute of Technology, 2002; Applied Scientist in Engineering Management, George Washington University, 2009. Public health informatics, data science, analytics, emergency management, policy and evaluation.

**Matthew Dollacker**, Affiliated Instructor. BS, Emory University, 2001. Public health informatics, disease surveillance, large-scale data analysis and predicative analytics, healthcare and public health information standards, managed care and health insurance, complex systems design and delivery.

**Dabney Evans**, Research Assistant Professor. BA, Arizona State University, 1996; MPH, Emory University, 1998; PhD, University of Aberdeen (UK), 2011. Global health, human rights, refugees, Cuba, Brazil, health policy, public health practice.

**Rebecca T. Filipowicz**, Affiliated Instructor. Master Certified Health Education Specialist. BS, Angelo State University, 1994; MS, University of North Texas–Denton, 1996; MPH, Emory University, 2001. Health education and promotion, behavioral science and epidemiology, chronic diseases including heart disease, diabetes and cancer, prevention, data management and surveillance, and program evaluation.

**Jennifer Fredianai**, Postdoctorate Research Fellow. BS, Georgia State University, 2002; MS, Georgia State University, 2006; PhD, Emory University, 2014. Nutrition and Disease.

**Laurie Gaydos**, Associate Chair for Academic Affairs and Associate Professor. BA, Brown University, 1998; PhD, University of North Carolina at Chapel Hill, 2004. Public policy, women's health, reproductive health, maternal/child health, mixed-methods research methods, program evaluation, research design.

**Frederic J. Grant**, Affiliated Professor. BS, Ohio State University, 1975; MBA, Georgia State University, 1980; PhD, Capella University of Minnesota, 2006; MPH, Emory University, 2011. Public health informatics, applied research methodologies, health system strategic planning and development, emergency preparedness, modeling and simulation

**Linda Ahdieh Grant**, Affiliated Professor. BA, Haverford College, 1991; MPH, Emory University, 1992 PhD, Johns Hopkins University, 1998. HIV/AIDS, HPV and cervical cancer, STDs, teaching and mentoring.

**Jeremy Grey**, Epidemiologist. BA, The College of New Jersey, 2006; PhD, University of Minnesota, 2013. HIV prevention, infectious disease modeling, health disparities.

**Jodie Guest**, Associate Director (AEPi Track) and Professor. BA, Baylor University, 1990; MPH, Emory University, 1992; PhD, Emory University, 1999. HIV and aging, HIV treatment, non-AIDS defining illnesses, evidence-based medicine, food insecurity, migrant health

**Johanna M. Hinman**, Affiliated Instructor. Master Certified Health Education Specialist. BA, Carleton College, 1992; MPH, Emory University, 1998. Health education and health promotion, program planning, community-based participatory research, community engagement and partnerships.

**James B. Jellison**, Affiliated Instructor. BA, Michigan State University, 1991; MPH, East Tennessee State University, 2009. Public health surveillance and informatics, epidemiology, geographic information systems, health information technology, interoperability standards, business process and requirements analysis, data modeling, evaluation.

**Jeb Jones**, Epidemiologist. BS, Georgia Institute of Technology, 2005; MS, University of Florida, 2009; MPH, Emory University, 2012; PhD (expected), Emory University, 2016. HIV prevention, health disparities, mobile health, risk assessment.

**Cynthia Jorgensen**, Adjunct Assistant Professor. BA, Boston University, 1981; MA, 1982; PhD, University of North Carolina-Chapel Hill, 1988. U.S. Centers for Disease Control and Prevention.

**Vijaya Kancherla**, Instructor. BHMS, NTR University of Health Sciences, 2000; MS, Southern Illinois University, 2004; PhD, University of Iowa, 2010. Maternal and child health epidemiology, epidemiology of birth defects and developmental disabilities, assessment of biomarkers of folate status among reproductive-aged women in developing countries, mortality in spina bifida.

**Wesley Kennemore**, Affiliated Instructor. BA, University of Alabama, 1987; MS, Saint Mary's University, 1997; MD, Windsor University School of Medicine, 2011. Public health informatics, public health laboratories..

**Juan Leon**, Thesis advisor and Associate Professor. BA, Dartmouth College, 1996; MPH/PhD, Northwestern University, 2003. Rollins School of Public Health, Hubert Department of Global Health.

**Jon M. Lipsky**, Affiliated Instructor. BA, University of Wisconsin–Madison, 1985; MBA, University of Wisconsin–Whitewater, 1990. Public health informatics, laboratory information management systems, standardized data exchange, data interoperability, and bioterrorism preparedness and response.

**Nicole Luisi**, Associate Director of Research Projects. BA, Moravian College, 2003; MPH, East Stroudsburg University, 2005; MS, University of Massachusetts Amherst, 2014. HIV/AIDS prevention, behavior and health, longitudinal study design, web-based surveys, data collection and management.

**Frank A. Manja Jr.**, Affiliated Instructor. BS, George Washington University, 1997; MS, George Washington University, 2001. Public health informatics, project management, standardized data exchange, data standards and interoperability.

**Tonya Martin**, Affiliated Instructor. BS, Bowling Green State University, 1979; MPH, Emory University, 1999. Data standards and interoperability, health information exchange, infectious diseases, public health surveillance, GIS.

**Sunanda McGarvey**, Affiliated Instructor. BS, Old Dominion University, 1982. CBAP (Certified Business Analysis Professional), public health informatics, bioterrorism preparedness and response, electronic laboratory reporting, workgroup management and collaboration.

**John E. McGowan Jr.**, Professor. BMS, Dartmouth Medical School, 1965; MD, Harvard University, 1967. Antibiotic resistance, health care epidemiology, global health.

**A. D. McNaghten**, Research Associate Professor. BS, Ohio University, 1988; MHSA, 1990; PhD, 1994. Disease surveillance, global health, HIV/AIDS, infectious disease.

**Kathleen R. Miner**, Associate Director (PRS Track), Professor and Associate Dean for Applied Public Health. BA, California State University (Long Beach), 1968; MEd, Georgia State University, 1979; MPH, Emory University, 1979; PhD, Georgia State University, 1984. Design and evaluation of domestic and international community-based interventions related to public health workforce development with particular interests in tobacco prevention and control, maternal and child health, HIV/AIDS, and emergency preparedness.

**Rita Noonan**, Affiliated Professor. BS, University of Connecticut, 1986; MA, 1989; PhD, Indiana University, 1998. Injury and violence prevention, evaluation, and translation research..

**Jean O'Connor**, Affiliated Professor. BS, Emory University, 1998; MPH, 2001; JD, 2001; DrPH, University of North Carolina at Chapel Hill, 2009. Public health law, tobacco and other drugs, obesity, health care access, policy development and evaluation, public health advocacy.

**Marc Overcash**, Affiliated Instructor. BA, Davidson College, 1992. Public health informatics, project management, information system design, enterprise architecture, and information technology management.

**William S. Pearson**, Adjunct Assistant Professor. BS, Bob Jones University, 1994; MHA, Medical University of South Carolina, 1999; PhD, University of South Carolina, 2004. Delivery systems for primary care and the management of chronic disease.

**Jamie M. Pina**, Affiliated Professor. BA, University of Massachusetts, 2001; MSPH, Emory University, 2006; PhD, University of Washington, 2011. Public health information management, syndromic surveillance, evaluation methods for information systems, usability and user experience, global health informatics, and games for health.

**Daniel Rutz**, Affiliated Instructor. BS, University of Wisconsin, Platteville, 1971; MPH, Emory University, 2001. Health medical and public health emergency risk communication, planning, and response; global domestic violence and HIV/AIDS prevention strategies; building journalist competencies in public health and medical reporting, especially in developing countries.

**Travis Sanchez**, Research Associate Professor. MPH, Emory University, 2000; DVM, University of Georgia, 1994. Disease surveillance, HIV/AIDS, infectious disease.

**Brad Sanford**, Affiliated Instructor. BA, Transylvania University, 1989. Information security, strategic planning, regulatory compliance, policy and standards development, security architecture and design.

**Thomas G. Savel**, Affiliated Professor. BA, Wesleyan University, 1991; MD, Mount Sinai School of Medicine, 1995. Public health informatics, clinical Informatics, usability and user experience, software prototype development, cloud computing.

**Jeff Sellers**, Affiliated Professor. BS, Auburn University, 1977; PhD, Duke University, 1981. Use of laboratory automation to improve data quality and data availability, implementation of enterprise-level bioinformatics systems, application of data mining/knowledge discovery to public health issues.

**Iris Smith**, Clinical Associate Professor. BA, Fordham University, 1971; MPH Emory University, 1979; PhD, Georgia State University, 2000. Substance abuse, program evaluation, behavioral research.

**Thomas Stanley**, Affiliated Instructor. BA, Olivet Nazarene University, 1983. Informatics, enterprise architecture, program management, information technology strategy and information technology integration.

**John Stinn**, Affiliated Instructor. BA, Washington University; MS, University of Miami. Information technology management, technology, strategy, architecture service line, health information technology.

**Patrick Sullivan**, Associate Professor. BS, Emory University, 1988; DVM, University of Tennessee, 1992; PhD, 1994. Behavior and health, disease surveillance, HIV/AIDS, infectious disease, sexual behavior.

**Sheri Chernetsky Tejedor**, Associate Professor of Medicine. BS, Georgia Institute of Technology, 1995; MD, The John Hopkins University School of Medicine. Healthcare, Informatics, Leadership.

**Megan Turk**, Affiliated Instructor. BS, Emory University, 2002; MBA, Emory University, 2005. Informatics, data analysis, strategic planning, project management.

**Rebecca Upton**, Affiliated Professor. AB, Colgate University, 1992; AM, Brown University, 1994; PhD, Brown University, 1999; MPH, Emory University, 2014. Qualitative and mixed methods, gender and reproductive health, fertility studies, HIV/AIDS, global public health, family and migration studies

**Drew Voetsch**, Adjunct Assistant Professor. BA, Emory University, 1993; MPH, Emory University, 1995; PhD, University of North Carolina/Chapel Hill, 2005. Adolescent Health/Child Health, Disease Surveillance, Global Health, HIV/AIDS, Infectious Disease.

**Laura Ward**, Associate Professor. BSPH, University of North Carolina-Chapel Hill, 2007; MSPH, Emory University, 2009. Collaborative biostatistics, study design, data management.

**David N. Westfall**, Affiliated Professor. BA, University of Florida, 1968; MD, 1972; MPH, Emory University, 2009. Health care finance, application of evidence-based public health interventions to local public health issues, public health workforce training and development.

## Executive Master of Public Health Course Descriptions

### AEPI 515D (2) Introduction to Public Health Surveillance

Prerequisite: AEPI 530D or EPI 504D or by special permission. Teaches the basic principles of public health surveillance, including the establishment of a public health surveillance program, the collation and analysis of data, and the preparation and distribution of a report. Helps students recognize the importance of a direct association between a public health surveillance program and a public health action.

### AEPI 530D (3) Applied Epidemiology I

This class will provide an introduction to the principles of epidemiology, including 1) the use of descriptive measures to describe the health of populations or groups of people, 2) approaches to assessing potential associations between personal characteristics, behaviors, or exposures and the occurrence of disease or other adverse health outcomes, 3) the basics of study design, including case-control studies and cohort studies and attendant approaches to defining case or exposure status.

### AEPI 534D (3) Applied Epidemiology II

Prerequisites: BIOS 516D and AEPI 530D or by special permission. Continuing from Applied Epidemiology I, further insight into confounding is explored as well as effect modification. Methods of hypothesis formulation and analysis of 2x2 tables (point estimation and confidence levels) are described in detail as well as sample size calculations. Different approaches to control for extraneous variables in the design of studies are presented, such as randomization, matching, and restriction. The use of stratification for assessing effect modification and confounding is provided followed by an introduction to mathematical modeling. Different issues in the use of matching in case-control studies are presented. Statistical packages such as SAS, Epi Info, and OpenEpi are used.

### AEPI 536D (3) Epidemiological Modeling

Prerequisites: BIOS 516D, BIOS 517D, AEPI 530D and AEPI 534D or by special permission. Methods for analyzing multivariable data sets in order to evaluate epidemiological research relationships between exposure and disease variables. Will include logistic regression (conditional and unconditional) and survival analysis.

### AEPI 538D (2) Applied Data Analysis

Prerequisites: BIOS 516D, BIOS 517D, BIOS 518D, AEPI 530D, AEPI 534D and AEPI 536D or by special permission. The purpose of this course is to prepare the student for actual analysis of survey data. Students will design and implement a survey and then analyze data by applying the methods taught in the epidemiology methods sequence.

### AEPI 540D (2) Case Studies in Infectious Disease

Prerequisite: BIOS 516D, BIOS 517D, BIOS 518D, AEPI 530D, and AEPI 534D or by special permission. Provides training in the investigation, control, and prevention of infectious

diseases by both descriptive and analytic epidemiological techniques. Students work with infectious diseases of national and international interest.

#### **AEPI 545D (2) Maternal and Child Health Epidemiology**

Prerequisites: BIOS 516D, BIOS 517D, BIOS 518D, AEPI 530D, and AEPI 534D or by special permission. Reviews current knowledge concerning factors related to maternal and child health. Epidemiologic methodologies specific to maternal and child health issues will be addressed.

#### **AEPI 555D (2) Chronic Disease Epidemiology**

Prerequisites: BIOS 516D, BIOS 517D, BIOS 518D, AEPI 530D, AEPI 534D and AEPI 536D or by special permission. Emphasis is placed on the distribution and determinants of chronic disease within the population. Research design and analysis are not the primary focus of the course, but methodological issues are considered when pertinent to the interpretation of findings.

#### **AEPI 565 (2) Advanced Modeling**

Prerequisites: AEPI 530D, AEPI 534D, AEPI 536D, AEPI 538D, BIOS 516D, BIOS 517D, and BIOS 518D or by special permission. Advanced Modeling will cover multivariate methods for analyzing epidemiologic data that involve examining associations between exposures and outcomes for which the outcome data are the time to an event, event rates, or a count of events. The course covers survival analysis and Poisson regression

#### **AEPI 599R (4) Thesis**

Prerequisites: Completion of 12 EMPH credit hours or by special permission. Provides an opportunity to integrate the content and skills learned in the academic setting through the participation in scholarly research or other culminating project.

#### **APHI 501D (2) Applied Public Health Informatics**

Prerequisite: PRS 500D. Enables participants to apply the technologies and methodologies available to improve the use and management of information for problem solving and decision making. Topics include types of data resources available, evaluating data in its context, and ways that the data may be used to affect outcomes.

#### **APHI 520D (2) Introduction to Applied Public Health Informatics**

Prerequisite PRS 500D. Provides students with foundational principles, tools, methodologies, data sources, terminologies, and policy issues as they relate to the emerging field of public health informatics. Current national e-health and health care reform priorities and strategies, and their implications for technologies in public health, will be discussed. In addition, students will review the historical and contemporary aspects of public health practice that have required the development of public health informatics. This course also provides the foundation for the remaining courses in the applied public health informatics track. Participants to apply the technologies and methodologies available to improve the use and management of information for problem solving and decision making. Topics include types of data resources available, evaluating data in its context, and ways that the data may be used to affect outcomes. Note: This course is for students with an introductory knowledge of public health informatics.

#### **APHI 525D (2) Overview of Data Sources, Standards, and Information Systems**

Prerequisite: APHI 520D and BIOS 516D or by special permission. The purpose of this course is to provide students with an overview of current public health data sources, standards, and information systems. The students will learn to identify types and sources of data as well as their utility to public health. The students will be able to identify the characteristics and features of applications and information systems that support point of service, surveillance, response and population health activities. The students will learn the features of effective public health information system design and best practices in choosing applications, integrating them, and exchanging information across systems.

Finally, students will learn to determine the role of standards in enabling information exchange, interoperability, and how to move forward the evolution of standards.

#### **APHI 527D (3): Public Health Technology Systems and Architectures**

Prerequisites: APHI 520D or by special permission. Prerequisites: APHI 520D or by special permission. The purpose of this course is to give the informatics student more breadth in the technology domain around computing. One has to understand enough around modern computing and data systems to partner with the IT/IS professionals to make sure an appropriate design and successful deployment of the technology meets the needs of the PH process and outcomes. This course provides a functional exposure from the basic ideas of computing through complex human interactions with technology and architectures that we base our modern systems upon to serve the current and future requirements in public health.

#### **APHI 535D (3): Project Management and System Lifecycle**

Prerequisite: APHI 520D, BIOS 516D, APHI 525D, APHI 527D, and APHI 545D or by special permission. The purpose of this course is to provide students with the skills and methods used in the management of technology deployment in public health scenarios. The evaluation of information system lifecycles and how they affect the planning and management process is also examined and students will gain experience with the tools to apply the impacts. Students will learn about ways to ensure that the milestones, change management, and quality assurance procedures are in place to deliver the solutions to meet public health needs. Students will also learn techniques, resources, and tools that assist in the analyses and documentation of workflows and business processes, which can be translated into requirements for public health information systems that drive the planning and management process. This course relies heavily on scenarios which require students to apply tools or methods taught in each module.

#### **APHI 540D (3): Data Management and Data Systems Architecture**

Prerequisite: APHI 520D, BIOS 516D, APHI 525D, APHI 527D, APHI 535D, and APHI 555D or by special permission. The purpose of this course is to provide students with key data terminology, concepts, and model derivation principles for data management and data systems architecture design within the context of public health. Students will learn to apply data design methodologies that are driven by effective requirements capture and public health program outcomes. The students will utilize standard requirements derivation methods to discover and extract data attributes and the data relationships that support a public health intent, outcome, or knowledge purpose. They will also learn to aggregate, normalize, and integrate data from multiple health and public health sources into relational model structures. Finally, students will learn best practices and methodologies that are used to architect interoperable public health data systems based on use of standard systems architectures.

#### **APHI 545D (2): Information Security, Privacy, Legal, and Ethical Issues**

Prerequisite: APHI 520D, BIOS 516D or by special permission. This course will enable students to put into practice information security and privacy frameworks and controls that will help determine the best balance or risk posture to protect data and individual privacy. Students will learn key provisions of national and state legislation for protecting the privacy of individuals and populations and understand public health's unique role within these regulations. In addition, students will work with different technology layers and associated controls that may be put in place to minimize the risk to institutions and the individual information that they protect.

#### **APHI 550D (3): Business and Communication Aspects of Public Health Informatics**

Prerequisite: APHI 520D, BIOS 516D, APHI 525D, APHI 527D, APHI 535D, APHI 540D, APHI 555D or by special permission. The purpose of this course is to provide students with an introduction to the business practices associated with public health informatics. Students will learn to plan for and manage fiscal and operational resources in the midst of shifting budgetary environments. Students will learn the various processes of business technology planning, business case

development, resource acquisition, allocation, and managing changing informatics requirements. In addition, students will learn to procure information technology services in order to purchase, develop, modify, and maintain public health information systems using generally accepted business practices and systematic decision-making methods.

#### **APHI 555D (2): Applied Public Health Informatics, Evaluation and Research**

Prerequisite: APHI 520D, BIOS 516D, APHI 525D, APHI 530D and APHI 535D or by special permission. The purpose of this course is to provide students with a foundation in the methods and techniques for evidence-based practice of public health informatics. Students will learn basic research design concepts, be introduced to various methodologies, and critique the scientific and grey literature. Students will use scientific evidence in the solution of public health informatics challenges. Students will develop evaluation and research skills that will allow them to use authoritative sources for information management strategies and to apply established frameworks for the evaluation of public health information systems.

#### **APHI 580D (2): Public Health Informatics Leadership and Strategy Capstone**

Prerequisite: APHI 520D, BIOS 516D, APHI 525D, APHI 527D, APHI 535, APHI 540D, APHI 545D, APHI 550D and APHI 555D or by special permission. The purpose of this course is to provide students with an opportunity to integrate knowledge learned from the course prerequisites and apply it in practical ways to real world situations. Emphasis is placed on the use of emerging technologies to provide new informatics capabilities to public health organizations. Students will develop the skills to ensure that the strategic direction of informatics aligns with the public health mission and goals of an organization, as well as broader e-Health priorities in the community. Students will be able to describe the drivers for and approaches to integration of data within an agency, interoperability across internal information systems within an agency, and interoperability with systems outside of the agency. Students will learn how to critique strategic policies that influence public health informatics and how to assess the impact of these policies on informatics priorities within organizations.

#### **APHI581D (2): Advanced Data Science and Decision Support Capstone**

Prerequisite: APHI 520D, BIOS 516D, APHI 525D, APHI 527D, APHI 535, APHI 540D, APHI 545D, APHI 555D and APHI 580D or by special permission.

The purpose of this course is to provide students with an opportunity to integrate knowledge learned from the course prerequisites and apply it in practical ways to real world situations. Emphasis is placed on translation and fusion of heterogeneous data for addressing public health issues. Students will further develop the skills to identify, transform, and derive data platforms and data interpretations to execute short and long term data strategies.

#### **APHI 585D Informatics Solutions for Public Health Decision Making**

Prerequisite: APHI 520D, BIOS 516D, APHI 525D, APHI 535, APHI 545D, APHI 550D and APHI 555D or by special permission. The purpose of this course is to provide students an exploration of classic data warehouse and data fusion methods along with developing an understanding of the variability of data structures that support knowledge derivation and decision support in public health. The course will extend into new areas of knowledge and decision support methods and systems by exploring “big data” concepts and approaches to systems that support these new architectures. Another critical area for decision-making is the visualization of data. Data visualization, data reporting, and active data manipulation approaches and tools will be explored. This will include advanced tools like GIS, OLTP, and dashboard systems.

#### **BSHE 504D (2) Social Behavior in Public Health**

Prerequisite: 500D. Introduces the basic principles and functional areas of health promotion and education. Explores considerations for incorporating health promotion and education

activities into the design of local, regional, national, and international public health programs. Provides the fundamental language, concepts, and constructs associated with the scientific approach used in behavioral research.

#### **BIOS 503D (2) Introduction to Biostatistics**

Prerequisite: college algebra or other upper level math. Introduces the most basic statistical concepts and methods: descriptive statistics, graphical display of data, probability, z-tests, t-tests, chi-square tests, and a brief introduction to linear regression. The course does not concentrate on teaching statistical packages, but some computer work might be assigned.

#### **BIOS 516D (2) Applied Biostatistics I**

Prerequisites: College algebra. This course covers fundamental concepts and methods used in data analysis. These include techniques in graphical and numerical descriptive statistics; elementary probability calculation using the normal distribution; point and confidence interval estimation and hypothesis testing for population means and proportions, differences between means and between proportions, and contingency table analyses (risk ratio and odds ratio). Students will use SAS to perform the statistical analysis.

#### **BIOS 517D (2) Applied Biostatistics II**

Prerequisite: BIOS 516D. This course starts with a review of the previous course, focusing on power and sample size. Nonparametric analogues of the parametric tests introduced in the preceding semester are also covered. Students then learn about linear regression, which introduces them to statistical modeling. Additional topics include interaction and confounding, dummy and effect coding of categorical variables, variable selection, polynomial regression, transformations and Poisson regression. As in the previous course, students will use SAS to perform the statistical analysis. Requirements include weekly homework, weekly quizzes, midterm and final exams, and data analysis project.

#### **BIOS 518D (2) Applied Biostatistics III**

Prerequisites: BIOS 516D, BIOS 517D. This course starts with ANOVA and ANACOVA and post-ANOVA multiple comparison procedures for cross-sectional data. Students are then introduced to longitudinal data analysis. As in previous courses, students first learn to create descriptive and graphical summaries appropriate to longitudinal data prior to conducting formal inference. Students study multilevel models and extend the statistical methods to more complex analytic situations that involve curvilinear and discontinuous growth trajectories and complex risk profiles, the inclusion of time-varying covariates, and the testing of complex interactions among time-invariant and time-varying predictors. Students use SAS to perform all statistical analyses. Requirements include weekly homework, weekly quizzes, midterm and final exams, and data analysis project.

#### **EH 500D (2) Perspectives in Environmental Health**

Prerequisite: PRS 500D. Presents the ecological paradigm as applied to public health and introduces various aspects of environmental health, including air, surface water and ground water contamination, food safety, occupational health, radiation, chemical and physical hazards, vector control, and injuries

#### **EPI 504D (2) Fundamentals of Epidemiology**

Prerequisite: PRS 500D. Emphasizes the underlying concepts of the epidemiological approach. Stresses the design of studies. Introduces quantitative measures to determine risk association and procedures for standardization of rates.

#### **GH 500D (2) Addressing Key Issues in Global Health**

Prerequisite: PRS 500D. Introduces the students to global public health issues, such as population growth, maternal mortality, and HIV. Presents how public health data are interpreted

from a global perspective. Describes future public health trends, relevant in domestic public health deliberations.

#### **HPM 500D (2) Introduction to the US Health Care System**

Prerequisite: PRS 500D. Introduces students to the United States health care system, both public and private sector. Examines the structure of the health system, current topics in health care reform, the policy process, and advocacy for public health.

#### **PRS 500D (0) Strategies and Resources for Online Learning**

This course provides students with an introduction to the Executive MPH online course format, the Blackboard learning platform, and Emory University resources. Students will participate in simulated academic course activities to assist in preparing for the first semester in EMPH. *This course is prerequisite before taking any program courses in EMPH.*

#### **PRS 502D (0) EMPH Thesis Advising Seminar**

Prerequisites vary by track: AEPI students will need to have completed AEPI 530D, AEPI 534D, AEPI 536D, BIOS 516D, BIOS 517D, and BIOS 518D. PRS students will need to have completed BIOS 503D, PRS 532D, and PRS 542D. This seminar is required for all EMPH students completing a thesis. The course consists of a six-week, self-paced online seminar that covers expectations and planning for the thesis, as well as participation in two synchronous online boot camps sessions for the development of a thesis topic.

#### **PRS 505D (2) Integrated Communication Strategies**

Prerequisite: BSHE 504D or by special permission. Explores methods of applying behavioral and cognitive theories to communicating health and behavioral change information. Illustrates communication strategies using a variety of approaches including face-to-face instruction, technology-mediated strategies, and print-based products. Provides students with an overview of concepts and strategies used in data presentation, social marketing, and public health information campaigns. Emphasis is placed on developing skills that enable practitioners to create consumer-oriented public health intervention, advocacy, and professional development efforts. Skills include formative research, audience segmentation, and channel analysis, and multidimensional data presentation.

#### **PRS 530D (2) Quantitative Analysis**

Prerequisite: PRS 532D and PRS 535D. Provides students with an introduction to measurement methods and basic knowledge of quantitative applications using SPSS software. Content will stress specific skills and knowledge of working with data sets using basic SPSS functions to analyze research questions and hypotheses, perform appropriate data analysis procedures, and interpret data outputs

#### **PRS 532D (2) Qualitative Research Methods**

Prerequisite: PRS 500D. Introduces students to qualitative research methods used in public health and applied settings. Content covers relevant aspects of qualitative research including research design, sampling, construction of data collection instruments, data collection techniques including observation, interviewing and focus groups, validity and reliability in qualitative research, analysis, and ethical issues.

#### **PRS 533D (2) Qualitative Analysis**

Prerequisite: PRS532D and PRS 535D or by special permission. This course focuses on the theory and application of qualitative data analysis from multiple sources, including focus group and interview data. Students will use MaxQDA software to analyze previously collected data samples.

#### **PRS 535D (2) Questionnaire Design and Analysis**

Prerequisite: BIOS 503D or by special permission. Presents the basics of questionnaire development and data analysis, as well as the interpretation of reporting of findings. The course introduces students to both quantitative and qualitative data methods. Students develop proficiency in the windows version of Epi info—an analytic computer package commonly used in the analyses of public health data.

#### **PRS 538D (3) Community Needs Assessment**

Prerequisite: PRS 532D, PRS 535D, and PRS 575D or by special permission. Encompasses the development of systematic plans for collecting data about the health status, knowledge, perceptions, attitudes, motivation, and health practices of a population or community and its socioeconomic environment.

#### **PRS 540D (3) Conduct of Evaluation Research**

Prerequisite: PRS 500D, PRS 532D, PRS 535D or by special permission. Covers all aspects of evaluation research, including formative process, outcome evaluation, and issues related to collection and analysis of both quantitative and qualitative data.

#### **PRS 542D (3) Curriculum Development for the Public Health Workforce**

Prerequisite: PRS 500D, PRS 535D or by special permission. This course will present principles of curriculum development for the public health workforce. The course will focus on instruction that is presented through distance-based methodologies. Course will cover foundational concepts such as definitions, perspectives and theories; curriculum and instructional design models; and e-Learning standards. In addition the course will delve into instructional technologies, and designing instruction. Students will develop an instructional module designed for distance-based delivery.

#### **PRS 561D (2) Public Health Advocacy**

Prerequisite: HPM 500D, PRS 535D, PRS 5XXD, PRS 505D, PRS 575D, one of PRS 530D, PRS 5XXD, PRS 534D and either PRS 538D or PRS 540D or by special permission. Introduces students to engaging in systems of law and policy development and implementation that influence health and public in the United States and globally. Prepares students to advocate for and lead the transformation of laws and policies to meet the health challenges of the 21<sup>st</sup> Century. Students will develop a portfolio of advocacy briefs, presentations, and papers as part of this capstone experience.

#### **PRS 562D (2) Program Planning Capstone**

Prerequisite: PRS 535D, PRS 5XXD, PRS 505D, PRS 575D, one of PRS 530D, PRS 5XXD, PRS 534D and either PRS 538D or PRS 540D or by special permission. This course is intended to integrate student's previous coursework with a focus on developing a community intervention or program. Students will develop a portfolio of documents that summarizes their program planning strategies.

#### **PRS 575D (3) Planning and Performance Measures for Nonprofits and Other Local Agencies**

Prerequisite: HPM 500D, PRS 505D, PRS 532D, PRS535D and AEPI 515D or by special permission. Introduces the basic concepts and vocabulary needed to operate, make decisions, and evaluate a nonprofit organization or other local agency. The course focuses on large and small nonprofits and other agencies that provide health education and interventions to improve the health of the public. Attention is given to the flow of funds to and from organizations with consideration given to adherence and compliance to a variety of regulatory requirements. Assignments are a combination of case studies and interactions with actual organizations. The course is designed to provide the learner with practical knowledge and tools to succeed within the nonprofit world.

#### **PRS 580D (3) Research Design and Grant Preparation**

Prerequisite: PRS 505D, PRS 532D, PRS 535D, BSHE 504D, and BIOS 503D or by special permission. Explores the basics of the scientific methods used in public health research. Covers how to state hypotheses, critique the scientific literature, develop a research design to test stated hypotheses, and write a research proposal. Compares and contrasts proposal writing and grant writing.

#### PRS 595R (2) Practicum

Prerequisite: Completion of 10 EMPH credit hours or by special permission. Enables students to apply skills and knowledge in an applied setting through a supervised field training experience in a public health setting that complements the student's interests and career goals.

#### PRS 599R (4) Thesis

Prerequisite: Completion of 12 EMPH credit hours or by special permission. Provides an opportunity to integrate the content and skills learned in the academic setting through participation in scholarly research or other culminating project.

## Interdepartmental Programs

The Rollins School of Public Health offers three interdepartmental programs. They are:

- MPH in Global Environmental Health (Environmental Health and Global Health)
- MSPH in Environmental Health and Epidemiology
- MPH and MSPH in Global Epidemiology (Epidemiology and Global Health).

More detailed information about this program can be found on the RSPH website. Those interested in any of these programs should contact the associate/assistant director of academic programs.

### Global Environmental Health (GEH)

Population, growth, demographic shifts, and increasing resource demands have direct and indirect impacts on climate and biodiversity, affecting the availability of food, clean air, and clean water. On a local and regional scale, patterns of resource extraction, agriculture, manufacturing, transportation, land use, and urbanization affect health through their effect on food, water, air, wastes, and risks of injury, toxic exposures, and infectious diseases. All of these relations are dynamic and rapidly evolving, and all take place against a background of increasing globalization. Some of the major determinants of health in developing nations, now and in coming years, relate to the environment.

The GEH program is a collaborative curriculum sponsored by the Department of Environmental Health and the Hubert Department of Global Health. A two-year program with a minimum of forty-two semester hours, it is designed for students interested in working for governmental or nongovernmental entities developing policy, implementing local interventions, or carrying out research on environmental health issues in a global context. Workplace organizations may be health-based and work to promote environmental health, and/or to understand the impact of environmental/natural resource issues on other health programs and policies. Settings may also focus on development, environment, or conservation, and work to improve the impact of their programs on public health. A practicum and a final thesis or culminating experience project are required.

Graduates of the GEH program will be trained in broad, contextual issues that frame environmental health problems, and in the technical, social and policy aspects of the

problems. The curriculum is designed to provide students with the basic skills required to address global environmental health issues. Each student is encouraged to take additional elective courses to create an area of specialization based on his/her interests. Students are also encouraged to take advantage of opportunities such as the courses and speakers in the departments of environmental studies, sociology, anthropology, and political science, as well as development studies seminars.

To be considered for admission to the GEH program, applicants should have completed courses in college-level biology and chemistry (general and organic strongly recommended), and college-level statistics and mathematics (calculus recommended). International experience and foreign language skills are also highly recommended. In addition, applicants should demonstrate a commitment to global health and an appreciation of cultural diversity. GRE or MCAT scores are required.

### Program Requirements

Course Number	Course Title	Credit Hours
<b>BIOS 500</b>	Statistical Methods I with lab	4
<b>EPI 530</b>	Epidemiologic Methods I with lab	4
<b>BSHE 500</b>	Behavioral and Social Sciences in Public Health	2
<b>HPM 500</b>	Introduction to US Health Care System	2
<b>GH 501</b>	Global Challenges and Opportunities	3
<b>EH 590R</b>	Introduction to Environmental Health	1
<b>EH 510</b>	Foundations of Exposure Science	2
<b>EH 520</b>	Human Toxicology	3
<b>EH 530 or</b>	Environmental and Occupational Epidemiology	2
<b>EHS/EPI 747</b>	Advanced Environmental Epidemiology	2
<b>EH 571</b>	Global Environmental Health Policy: Power, Science and Justice	2
<b>GH 502 or</b>	Survey Research Methods	3
<b>GH 522 or</b>	Qualitative Research Methods	3
<b>GH 560</b>	Monitoring and Evaluation of Global Health Programs	3
<b>GH 555 or</b>	Proposal Development	2
<b>EH 596</b>	Research Design in Environmental Health	1
<b>EH 595</b>	Practicum	0
<b>EH/GH 599R or</b>	Thesis	4
<b>EH 594</b>	Capstone Seminar: Skills for Environmental Health Professionals	4

**GEH students must take a minimum of 6 credit hours from the following list of elective classes. Other electives may be substituted with permission of faculty advisor and the GEH director.**

Course Number	Course Title	Credit Hours
<b>BIOS 501*</b>	Statistical Methods II with lab	4
<b>GH 542*</b>	Evidence-Based Strategic Planning	3
<b>EH 515</b>	Air Quality in the Urban Environment	2
<b>EH 524</b>	Risk Assessment I	2
<b>EHS 760</b>	Advanced Risk Assessment	2
<b>EH 527</b>	Biomarkers & Environmental Public Health	2
<b>EH 543</b>	Sustainability	2

<b>EH 548</b>	Research Methods for Studies of Water and Health	3
<b>EH 549</b>	Critical Analysis of Water, Sanitation, and Hygiene Research	2
<b>EH 570</b>	Environmental and Occupational Health Policy	2
<b>EH 581</b>	Public Health Consequences of Disasters	3
<b>EH 582/GH582</b>	Global Climate Change: Health Impacts and Response	2
<b>EH 583</b>	Spatial Analysis in Disease Ecology	4
<b>EH 584</b>	Built Environment and Public Health	2
<b>EH 586</b>	Advanced Seminar in Climate Change and Health	2
<b>EH 587</b>	Introduction to Satellite Remote Sensing	3
<b>EH 590R</b>	Topics in Health: Genome, Exposome, and Health	2
<b>EHS 750</b>	Environmental Determinants of Infectious Disease	2
<b>INFO 530</b>	Geographic Information Systems	2
<b>GH 502</b>	Global Health Survey Research Methods	2
<b>GH 522</b>	Qualitative Research Methods for Global Health	3
<b>GH 529</b>	Water and Sanitation in Developing Countries	2
<b>GH 560</b>	Monitoring and Evaluating of Global Public Health Programs	3
<b>EPI 536</b>	Applied Data Analysis	2
<b>BIOS 550</b>	Computer Analysis of Complex Survey Data	2

**\*Strongly recommended for GEH students**

**Total credits required for GEH/MPH Program** 42

**Joint EH/EPI MSPH Program**

The joint MSPH program in EH/EPI prepares students for research careers in environmental epidemiology through specialized training in epidemiologic methods and skills applied to environmental health. It is a two-year program with a minimum of forty-eight semester hours and a practicum and final thesis are required. All applicants should have completed both college-level biology and chemistry and a college-level math course: calculus, college-level statistics, and organic chemistry are recommended: Program Requirements:

Course Number	Course Title	Credit Hours
<b>BIOS 500</b>	Statistical Methods I with lab	4
<b>BIOS 591P</b>	Statistical Methods II	3
<b>EPI 530</b>	Epidemiologic Methods I with lab	4
<b>EPI 533</b>	Programming in SAS	1
<b>EPI 534</b>	Epidemiologic Methods II with lab	3
<b>EPI 538</b>	Advanced Epidemiologic Methods I	2

<b>EPI 591U</b>	Application of Epi Concepts	3
<b>EPI 740</b>	Epidemiologic Modeling	3
<b>EH 590R</b>	Introduction to Environmental Health	1
<b>EH 510</b>	Foundations of Exposure Science	2
<b>EH 520</b>	Human Toxicology	3
<b>EH 570</b>	Environmental and Occupational Health Policy	3
<b>EH 580</b>	Injury Prevention and Control	2
<b>EHS747/EPI 747</b>	Advanced Environmental Epidemiology	2
<b>EH 595</b>	Practicum	0
<b>EH/EPI 599R</b>	Thesis	4
<b>BSHE 500</b>	Behavioral and Social Sciences in Public Health	2
<b>GH 500</b>	Critical Issues in Global Health	2
<b>HPM 500</b>	Introduction to US Health Care System	2

**Complete a minimum of two courses from the following list of electives. Other electives may be substituted with permission of faculty adviser and EH/EPI co-director.**

<b>EH 515</b>	Air Quality in the Urban Environment	2
<b>EH 524</b>	Risk Assessment I	2
<b>EHS 760</b>	Advanced Risk Assessment	2
<b>EH 527</b>	Biomarkers and Environmental Public Health	2
<b>EH 546/</b>	Environmental Microbiology: Control of Food and	
<b>GH 580</b>	Waterborne Disease	
<b>EH 550</b>	Environmental and Occupational Health Practice	2
<b>EH 581</b>	Public Health Consequences of Disasters	3
<b>EH 582</b>	Global Climate Change: Health Impacts and Response	3
<b>EH 583</b>	Spatial Analysis in Disease Ecology	4
<b>EH 584</b>	Built Environment and Public Health	2
<b>EH 596</b>	Research Design in Environmental Health	1
<b>INFO 530</b>	Geographic Information Systems	2
<b>EPI 537</b>	Epidemiology of Chronic Disease	2
<b>EPI 552</b>	Genetic Epidemiology	2
<b>EPI 591S</b>	Social Epidemiology	2
<b>EPI 743</b>	Epidemiology of Cancer	2
<b>EPI 744</b>	Pediatric and Perinatal Epidemiology	2
<b>EPI 746</b>	Reproductive Epidemiology	2
<b>EPI 750</b>	Analysis of Longitudinal Data in Epidemiological Research	3

**Total credits required for EH/EPI MSPH Program** 48

## Global Epidemiology

The departments of Epidemiology and Global Health work collaboratively to offer a MPH and MSPH in Global Epidemiology. The program is designed to provide students with qualitative and quantitative research methodologies that enable graduates to contribute to global health. The MPH requires 42 hours of course work, the MSPH requires 48 hours of course work.

### Program Requirements

Required Public Health Breadth Courses (6 hours for MPH and MSPH)

Course Number	Course Title	Credit Hours
HPM 500	Introduction to US Healthcare System	2
BSHE 500	Behavioral and Social Sciences in Public Health	2
EH 500	Perspectives in Environmental Health	2

### Required Epidemiologic Methods Courses

Course Number	Course Title	Credit Hours
EPI 530	Epidemiologic Methods I with lab	4
EPI 533	Programming in SAS	1
EPI 534	Epidemiologic Methods II with lab	3
EPI 591U	Application of Epidemiologic Concepts	3
EPI 740	Epidemiologic Modeling	3
BIOS 500	Statistical Methods I with lab	4
BIOS 591P	Statistical Methods II with lab	3

### Required Global Context Courses

GH 501	Priorities, Policies, and Programs in Global Health (any section)	3
<b>GH Methods (select 2–3 credit hours from approved list)</b>		2–3
EPI 595R	Epidemiology Practicum*	0
GH/EPI 599R	Thesis**	4

**Electives (5-6 hours for MPH; 6-7 hours for MSPH)**

### Additional Courses Required for MSPH (5 hours)

EPI 538	Advanced Epi Methods	2
EPI 750	Analysis of Longitudinal Data	3

\* The Global Epidemiology practicum must involve project-oriented work in an international setting OR focused on low resources or underserved populations, if domestic.

\*\* The Global Epidemiology thesis must have international public health implications OR, if focused domestically, for underserved or low resource populations.



## Dual-Degree Programs

The Rollins School of Public Health offers dual-degree programs with the business, medical, nursing, theology, law and the Laney Graduate School.

Candidates for dual-degree programs must apply to each school separately. Evaluation criteria for admission to the School of Public Health for students in the dual degree program are the same as those for the MPH program alone. Students accepted into the dual-degree program will be notified of acceptance by both schools. If students are accepted into one school but not the other, they may enroll in the school that has accepted them but not as a dual-degree student. Upon admission to the dual-degree program, students should consult with the appropriate program director of each school to plan their courses of study.

During the admission process, applicants to the School of Public Health must indicate the department in which they are interested in pursuing a dual degree. The departments or academic programs that participate in the dual degree program are Behavioral Sciences and Health Education, Environmental Health, Epidemiology, Global Environmental Health, Global Epidemiology, Global Health, and Health Policy and Management. Not all departments and academic programs participate in every dual degree program. Those who participate are noted in the descriptions of each dual degree program below. The dual degree MPH curriculum is based on individual department requirements and meets the competencies for each program area.

The conferring of dual degrees requires the satisfactory completion of the partnering school's degree requirements and the Rollins School of Public Health MPH degree requirements (42 credit hours including a practicum and culminating experience). Two semesters of residency in the School of Public Health are required of all dual degree students. Students are required to complete MPH degree core courses, department required courses, and elective course work. Up to ten semester hours of credit earned in the partnering school may be counted as elective credit hours towards the MPH degree. Courses for each program that may count as elective credits towards the MPH degree are noted in the descriptions of each dual degree program below.

During their residency in the Rollins School of Public Health, students will be charged the current rate of tuition for dual degree students. When enrolled in the partnering program, the student will be charged the current rate of tuition by that school or program. School-sponsored scholarships and grants are applicable only to those semesters in which the student is in residency at the respective schools.

Students enrolled in dual degree programs receive both degrees simultaneously upon completion of all degree requirements for both programs. For specific dual degree courses, please refer to the departmental websites at <http://www.sph.emory.edu/departments/index.html>.

### MA in Bioethics/MPH

The Laney Graduate School and the School of Public Health collaborate in a program granting the master of arts and the master of public health degrees (MA-Bioethics/MPH). The first year is spent at the Rollins School of Public Health and the second year at the Laney Graduate School.

The departments that participate in the MA-Bioethics/MPH are Behavioral Sciences and Health Education, Environmental Health, Epidemiology, Global Environmental Health, Global Epidemiology, Global Health, and Health Policy and Management.

The goal of this program is to train a select group of students in the intersection of public health and bioethics. Students who graduate with a dual MA in Bioethics/MPH degree will be well qualified to help set priorities for pandemics or other allocations of scarce resources, to set public policy on access to health care, or to conduct education on the ethical foundations of public health practice.

The following courses offered through the Bioethics curriculum may be used as elective credit hours towards the MPH degree:

Course Number	Course Title	Credit Hours
<b>BIOETH 502</b>	Classic Issues in Bioethics	3 credits
<b>BIOETH 503</b>	Contemporary Issues in Bioethics	3 credits
<b>BIOETH 505</b>	Special Topics	3 credits

Bioethics and the Law  
Animals and Ethics  
Neuroethics  
Ethics of Human Subjects Research  
Public Health Ethics  
Religion and Bioethics  
Distributive Justice  
Human Rights and Bioethics

### MBA/MPH Degree

Goizueta Business School and the School of Public Health collaborate in a program granting the master of business administration and master of public health degrees. In the application process, scores from the GMAT may substitute for the GRE requirement. Students can complete this program in five semesters, of which two are resided in the School of Public Health. Candidates begin the program in the fall with two semesters in the business school. The following fall and spring the candidates enroll in the School of Public Health. During the final fall semester, the candidate takes electives in both schools but enrolls in the business school.

Department and academic programs participating in the MBA/MPH dual degree program are Behavioral Sciences and Health Education, Environmental Health, Epidemiology, Global Environmental Health, Global Epidemiology, Global Health, and Health Policy and Management.

Students in the MBA/MPH program gain the skills and knowledge to effectively lead and manage public health systems and programs, as well as advise on domestic and global health policy issues. Graduates of the MBA/MPH program are trained to work in health programs on issues such as policy and funding, defining goals, and managing public health organizations.

The following courses offered through the MBA's curriculum may be used as elective credit hours towards the MPH degree:

Course Number	Course Title	Credit Hours
<b>BUS 550</b>	Data and Decision Analytics	3 credits
<b>BUS 531</b>	Leading Organizations and Strategy	3 credits
<b>BUS 551</b>	Process and Systems Management	2 credits
<b>BUS 500C</b>	Structured Problem Solving	1 credit
<b>BUS 561A</b>	Professional Communications	1 credit

### MD/MPH Degree with Emory University School of Medicine

Emory University School of Medicine and the School of Public Health collaborate in a program granting the doctor of medicine and master of public health degrees. This program is designed to be completed within five years, four of which are spent primarily in the medical school. It is recommended but not required that the year spent in the School of Public Health follow the third year of medical school.

Candidates for the MD/MPH Program must apply to the School of Medicine and submit a one-page essay describing their interest in public health. Students applying to the MD/MPH dual degree program will have an opportunity to visit the School of Public Health and meet with faculty at the time of their medical school interview and will be interviewed in the year prior to enrolling in the School of Public Health. Applicants will be notified of acceptance into the dual-degree program after they are accepted by the School of Medicine.

The departments and academic programs that participate in the MD/MPH dual degree program are Behavioral Sciences and Health Education, Environmental Health, Epidemiology, Global Environmental Health, Global Epidemiology, Global Health, and Health Policy and Management. The schools of Medicine and Public Health will defray a portion of the cost of tuition and fees for the MPH degree. This program prepares students to work as physicians in the public health field, enabling them to diagnose health problems and risk factors of individuals and communities. Physicians who are awarded an MPH will have the ability to work in international and government agencies, clinics, health departments and research centers as well as teach at the School of Public Health.

The following courses offered through the medical school's curriculum may be used as elective credit hours towards the MPH degree:

Course Number	Course Title	Credit Hours
<b>MD 520</b>	Exercise and Movement	2 credits
<b>MD 535</b>	Genetics and Evolution	2 credits
<b>MD 540</b>	Aging and Dying	1 credit
<b>MD 548</b>	Becoming a Doctor I	3 credits
<b>MD 578</b>	Becoming a Doctor II	3 credits
<b>MD 638</b>	Becoming a Doctor III	3 credits

## Accelerated MPH Program for External Professional Degrees and PhDs

Students in good standing at any fully-accredited U.S. university are welcome to apply to Rollins for an MPH year as part of their current degree program. Students may attend Rollins at any time prior to completion of their program studies and the receipt of their degree.

**The program is not available to those who have already received their Professional or PhD degree.** Admission to this program and the curriculum to be pursued is considered on an individual basis.

The proposed Accelerated MPH Program draws upon our experience with these programs and would provide an opportunity for students currently enrolled in accredited professional schools other than Emory University. They would include students enrolled in **professional doctoral or graduate-level programs, such as but not limited to schools of Medicine, Nursing, Business, Law, Theology, and Social Work as well as School of Veterinary Medicine, Osteopathy, Pharmacy and Dentistry.** To ensure the integration of training, students will enroll in the MPH and spend a year (fall and spring semesters) at the Rollins School of Public Health. Students will attend Rollins in concert with the course of study in their initial professional degree program. The actual academic year to attend Rollins will be coordinated with the initial school administration to assure all requirements are met.

Students would be eligible to transfer 10 semester hours of credits relevant to public health in their initial professional program that will count as electives toward the 42-44 hour MPH program. Those courses will be reviewed and approved by the program administrator as having relevance for the competencies in public health. Once enrolled the RSPH MPH program, students must complete 32-35 semester hours, depending on the MPH concentration during the fall-spring semester sequence. The MPH degree is awarded by Rollins after the student presents evidence of completion of all school requirements at both schools.

Applicants should:

1. Complete the online application process at [www.sophas.org](http://www.sophas.org). Make sure you select the External Professional Degree/MPH program designation with the desired department.
2. In order to compete the application process you should have the following items sent to SOPHAS: three letters of recommendation; and official transcripts from all institutions attended, including current institution, in signed/sealed envelope.
3. Arrange to have the following items sent directly to RSPH Admissions:
  - a. Download the Good Standing Verification form on the website at <http://www.sph.emory.edu/cms/academic/degree-programs/dual-degree/md-mp/non-emory-medical-students/index.html> and submit to the appropriate dean or administrator in the school you are attending who can attest that you have successfully completed the courses to date and that you are a student in good standing;
  - b. A list of courses intended to take when returning to the home school.

## MSN/MPH Degree

The Nell Hodgson Woodruff School of Nursing and the School of Public Health collaborate in a dual degree program offering the master of science in nursing and master of public health. Students will enroll in the School of Public Health for one calendar year and then complete requirements for the master of science in nursing within the School of Nursing.

Dual degree students are required to choose a specialty in the nursing school as well as a department in the School of Public Health. Nursing specialties include acute care nurse practitioner, adult/gerontology nurse practitioner, emergency nurse practitioner, family nurse practitioner, family nurse-midwife, family nurse-midwife, health systems leadership, nurse-midwifery, pediatric nurse practitioner-acute care, pediatric nurse practitioner-primary care, women's health/adult health nurse practitioner, women's health nurse practitioner, and women's health care.

School of Public Health departments and academic programs participating in the MSN/MPH dual-degree program are Behavioral Sciences and Health Education, Environmental Health, Epidemiology, Global Environmental Health, Global Epidemiology, Global Health, and Health Policy and Management.

This program prepares professional nurses for leadership roles in health care and in the field of public health. The MSN/MPH program combines clinical nursing skills with public health knowledge to help future nurses assume leadership roles as they deliver care to at-risk individuals and work to improve community health. A person who obtains a MSN/MPH will have the credentials to direct or manage a public health organization, engage in preventive health services, and promote health within communities. They will be able to speak on behalf of those affected by public health crises.

The following courses offered through the nursing school's curriculum may be used as elective credit hours towards the MPH degree:

<b>NRSRG 507</b>	Theory and Research Applications	3 credit hours
<b>NRSRG 544</b>	Advanced Health Assessment	3 credit hours
<b>NRSRG 503</b>	Advanced Practical Nursing: Ethical Legal and Leadership Issues	3 credit hours
<b>NRSRG 501</b>	Health Policy and Finance for Advanced Practice Nursing	3 credit hours

## JD/MPH Degree

The School of Law and School of Public Health collaborate to offer a dual degree program awarding the master of public health and doctor of law (JD) degrees. Students must complete all courses prescribed for the JD program, with no fewer than five semesters of residence in the School of Law. Enrollment in at least two semesters in the RSPH is also required. LSAT scores may be substituted for GRE scores as part of the public health application and other evaluation criteria remain the same for public health applicant. It is recommended that the student attend RSPH between the first and second year of the law school curriculum.

The departments and academic programs participating in the JD/MPH dual degree program are Behavioral Sciences and Health Education, Environmental Health, Epidemiology, Global Environmental Health, Global Epidemiology, Global Health, and Health Policy and Management.

By combining the programs, students are able to develop a special expertise in public health-related legal issues, to advocate for and create public health programs and policies, and to solve public health problems using legal tools. The JD/MPH program prepares students to advise and advocate for public health departments, private organizations, individuals, and communities.

The following courses offered through the law school's curriculum may be used as elective credit hours towards the MPH degree:

<b>Law 575</b>	Legislation/Regulation	3 credit hours
<b>Law 635</b>	Child Welfare and Law	2 credit hours
<b>Law 680</b>	Food and Drug Law	3 credit hours
<b>Law 736A</b>	Law in Public Health	2 credit hours
<b>Law 744</b>	Regulation/Health Care Providers	2 credit hours

### MMSC in Physician Assistant/MPH Degree

The Physician Assistant Program of the School of Medicine and the School of Public Health collaborate in offering a dual-degree program awarding the master of public health and master of medical science degrees. Students enroll in the School of Public Health for one calendar year during their first year at Emory. They then complete an additional seven semesters in the Physician Assistant Program including summers.

Departments and academic programs participating in the PA/MPH dual degree program are Behavioral Sciences and Health Education, Environmental Health, Epidemiology, Global Environmental Health, Global Epidemiology, Global Health, and Health Policy and Management.

The PA program emphasizes primary health care and preventive medicine and seeks to interest students in working in medically underserved areas. Students may apply their combined PA/MPH skills in such areas as population or clinical research, health administration leadership, and community health promotion.

The following courses offered through the Physician Assistant's curriculum may be used as elective credit hours towards the MPH degree:

<b>PAE 7100</b>	Becoming a Physician Assistant I	2 credit hours
<b>PAE 7105</b>	Biomedical Ethics	2 credit hours
<b>PAE 7101</b>	Becoming a Physician Assistant II	2 credit hours
<b>PAE 7102</b>	Becoming a Physician Assistant III	2 credit hours
<b>PAE 7103</b>	Becoming a Physician Assistant IV	2 credit hours

### DPT/MPH Degree

The Physical Therapy Program of the School of Medicine (Department of Rehabilitation Medicine) and the School of Public Health collaborate in offering a dual degree program awarding the master of public health and doctor of physical therapy degrees. The doctor of physical therapy (DPT) degree is a professional doctorate in physical therapy.

The DPT/MPH program is four years in length. Students spend their first two years in the DPT program, developing a strong foundation in the basic and clinical science, with an emphasis on movement and movement dysfunction. In the third academic year, students focus on the MPH degree, enrolling in the School of Public Health. Students return to the DPT program for the final academic year.

Departments and academic programs participating in the DPT/MPH dual degree program are Behavioral Sciences and Health Education, Epidemiology, Global Health, Global Epidemiology, and Health Policy and Management.

The combined DPT/MPH degree enables physical therapists to become leaders in preventive health care policy and practice as well as effective therapists following a public health crisis. They bring rehabilitation into the sphere of public health.

The following courses offered through the Division of Physical Therapy may be used as elective credit hours towards the MPH degree:

<b>DPT 720</b>	Ethics and Professionalism	2 credit hours
<b>DPT 700</b>	Health Promotion, Wellness and Prevention: Individual	1 credit hour
<b>DPT 725</b>	Interpersonal Communications	2 credit hours
<b>DPT 745</b>	Growth Processes through the Lifespan	4 credit hours
<b>DPT 920</b>	Health Promotion, Wellness, and Prevention: Community	3 credit hours

### MDiv/MPH

The Candler School of Theology collaborates with the RSPH in offering a dual degree program awarding both the master of divinity and master of public health degrees (MDiv/MPH). The dual degree program may be completed in four years. The first year is spent at the Candler School of Theology, the second year at Rollins School of Public Health, and the third and fourth years are completed at Candler.

Departments and academic programs participating in the MDiv/MPH dual degree program are Behavioral Sciences and Health Education, Environmental Health, Epidemiology, Global Environmental Health, Global Epidemiology, and Health Policy and Management.

The dual degree program prepares students to use a theological foundation when working in the field of public health. Public health professionals who hold the MPH/MDiv are trained to work in public health within the context of religious institutions, applying religious and theological knowledge to enhance health programs for special populations.

Course work offered through Candler School of Theology in the following program areas may be used as elective credit hours towards the MPH degree. Students should confirm with their academic adviser that the course fulfills the requirements.

Christian Ethics (course number ES 501)	3 credit hours
World Religions (designated as WR or CEE)	3 credit hours
Introductory Arts of Ministry (designated as CC, EV, LA)	6 credit hours
Sociology of Religion or Religion and Personality (designated as SR, OR, RP)	3 credit hours
Theology or Ethics (designated as HT, ST, ES; does not include ES 501)	3 credit hours

## MTS/MPH

The Candler School of Theology collaborates with the School of Public Health in offering a dual degree program awarding both the master of theological studies and master of public health degrees (MTS/MPH). The dual degree program may be completed in three years. The first year is spent at the Candler School of Theology, the second year at Rollins School of Public Health, and the third year is completed at Candler.

Departments and academic programs participating in the MTS/MPH dual degree program are Behavioral Sciences and Health Education, Environmental Health, Epidemiology, Global Environmental Health, Global Epidemiology, and Health Policy and Management.

As with the MDiv/MPH program, a MTS/MPH prepares students to use a theological foundation when working in the public health field. Public health professionals who hold the MPH/MTS are trained to work in public health within the context of religion and the theological knowledge to enhance health programs for special populations.

Course work offered through Candler School of Theology in the following program areas may be used as elective credit hours towards the MPH degree. Students should confirm with their academic adviser that the course fulfills the requirements.

History and Interpretation of Christianity	a minimum of 4 credit hours
Church History	CH
Historical Theology	HT
Systematic Theology	ST
Christianity and Culture	a minimum of 6 credit hours
Ethical Studies	ES
Missions	M
Religion and Personality	RP
Sociology of Religion	S
World Religions	WR

## PhD/MPH Degree

A joint master of public health/doctor of philosophy (MPH/PhD) degree is offered through the Rollins School of Public Health. Prospective candidates apply separately to both the Rollins School of Public Health and Laney Graduate School. Students in the Laney Graduate School may apply for admission to the MPH program during their graduate studies with the approval of their PhD program's director of graduate studies. Applicants specify which of five programs of study or department they prefer: Behavioral Sciences and Health Education, Environmental Health, Epidemiology, Global Health. Up to 10 semester hours of course credit relevant for public health taken in the doctoral program may be applied toward the 42 semester hour MPH program. Students must enroll full time in the RSPH for a fall-spring semester sequence, and complete a practicum in public health. The MPH is granted upon completion of requirements for the PhD.

For specific information, contact the RSPH Department of Student Services [www.sph.emory.edu/admissions/index.html](http://www.sph.emory.edu/admissions/index.html).

## MPH/JM Degree

A dual Master of Public Health and Juris Master (MPH/JM) is offered in cooperation with the Emory Law School. The Juris Master (JM) curriculum does not qualify recipients to practice law. Rather, it is designed to supplement a student's professional pursuits in areas beyond legal practice. Professionals in the public health sector are required to adapt to new realities, including the law as it applies to matters of public health, human rights, environment, public health policy, privacy, and interrelated issues.

Candidates for the dual degree should apply to and be accepted by both Rollins and Emory Law School as the schools maintain independent application procedures. The minimum length of program is two and a half years: the first three semesters at Rollins (fall, spring, fall); and two semesters at the Law School (spring, fall). Students must complete 42 credit hours for the MPH and 30 credit hours for the JM.

The student must register and pay tuition for three semesters at Rollins at the accelerated rate and two semesters at the Law School, but may take courses in either school. Rollins scholarships and grants are applicable only to those semesters in which the student is in residency in the Rollins School of Public Health.

Career opportunities for Public health professionals who hold a MPH/JM will possess a legal grounding in the basics of torts and contracts, in addition to laws related to health research, policy, and regulation enabling them to better assess organizational risk, make informed decisions, contributing to the people they serve.

For additional information for RSPH contact the RSPH Department of Student Services, [www.sph.emory.edu/admissions/index.html](http://www.sph.emory.edu/admissions/index.html). For additional information on the JM degree contact [law.emory.edu](http://law.emory.edu).

## Five-Year Bachelor/Master's Program with Emory College

### BA/MSPH Program—Biostatistics

Emory College and the Rollins School of Public Health (RSPH) jointly offer a five-year bachelor's/master's degree program. Students have an opportunity to complete a bachelor of arts (BA) in Emory College, with a major concentration in mathematics and computer sciences, and a master of science in public health (MSPH) in biostatistics within five years. Emory College students will apply and be admitted to the program during their third (junior) year and enroll in eight to twelve semester hours of credit in MSPH courses during their fourth (senior) year. Two undergraduate courses (totaling six semester hours) offered by the Department of Mathematics and Computer Science will also count toward the MSPH in biostatistics. Students graduating from Emory College with a BA will then take courses during their fifth year as MSPH students in the Rollins School of Public Health.

### BA-BS/MSPH Required Course Work

Course Number	Course Title	Credit Hours
<b>Math 361</b>	Probability and Statistics I	4
<b>Math 362</b>	Probability and Statistics II	4
<b>BIOS 506</b>	Biostatistical Methods I	4

<b>BIOS 507</b>	Applied Linear Models	4
<b>BIOS 508</b>	Introduction to Categorical Data Analysis	2
<b>BIOS 522</b>	Survival Analysis Methods	2
<b>BIOS 526</b>	Modern Regression Analysis	3
<b>BIOS 531</b>	SAS Programming	2
<b>BIOS 595R</b>	Practicum	0
<b>BIOS 599R</b>	Thesis	6
<b>EPI 530</b>	Epidemiological Methods I	4
<b>EH 500</b>	Perspectives in Environmental Health	2
<b>BSHE 500</b>	Behavioral and Social Sciences in Public Health	2
<b>HPM 500</b>	Introduction to the US Health Care System	2
<b>GH 500</b>	Critical Issues in Global Health	2

### BS/MPH Five-year Program–Environmental Health

A five-year bachelor's/master's degree (BS/MPH) is offered through the Emory College Department of Environmental Sciences (ENVS) and the Rollins School of Public Health Department of Environmental Health EH/MPH program. Students can earn a Bachelor of Science and Master of Public Health in five years. Sophomore in the ENVS BS program with a minimum cumulative GPA of 3.25 may apply.

### BS/MPH Required Courses (for the MPH portion)

Course Number	Course Title	Credit Hours
<b>BIOS 500</b>	Statistical Methods I with lab	4
<b>EPI 530</b>	Epidemiologic Methods I with lab	4
<b>BSHE 500</b>	Behavioral and Social Sciences in Public Health	2
<b>GH 500</b>	Critical Issues in Global Health	2
<b>HPM 500</b>	Introduction to the US Health Care System	2
<b>EH590R or</b>	Introduction to Environmental Health	1
<b>EH 500</b>	Perspectives in Environmental Health	2
<b>EH 520</b>	Human Toxicology	3
<b>EH 524</b>	Risk Assessment I	2
<b>EH 530</b>	Environmental and Occupational Epidemiology	2
<b>EH 550 or</b>	Environmental and Occupational Health Practice	2
<b>EH 593R</b>	Data Analysis in Environmental Health	1
<b>EH 570</b>	Environmental and Occupational Health Policy	3
<b>EH 595</b>	Practicum	0
<b>EH 596</b>	Research Design in Environmental Health	1
<b>or GH 555</b>	Proposal Development	2
<b>EH 599R</b>	Thesis	4
<b>or EH 594</b>	Capstone Seminar: Skills for Environmental Health Professionals	4

## RSPH Certificate Programs

The Rollins School of Public Health offers a variety of certificate programs which may or may not be earned in conjunction with a MPH or MSPH degree. The purpose of these certificate programs is to train our public health graduates in specialized areas of practice that have been identified as critical in the public health discipline. All certificate programs are developed around the RSPH school mission and competencies identified by the sponsoring department or center in alliance with its overall competencies. Upon successful completion of the certificate requirements, the certificate is noted on the student's official transcript.

### Independent Certificate Programs

Independent Certificate Programs are those that are earned independently of a MPH/MSPH degree. These programs will consist of a total of 12-20 semester hours (usually 5-8 courses). A culminating or capstone experience may also be required in addition to the coursework.

### Certificate in Public Health Informatics

Through the Department of Biostatistics and Bioinformatics, the RSPH offers a certificate program in public health informatics. This program offers an opportunity for professionals who already have advanced training in public health to gain further skills in the emerging field of public health informatics.

PHI certificate students will complete 20 hours of training in the courses that form the core curriculum for the MSPH-PHI program. The course requirements are listed below.

### Courses Required for the Certificate in Public Health Informatics

<b>INFO 500</b>	Principles of Public Health Informatics I	2
<b>INFO 501</b>	Principles of Public Health Informatics II	2
<b>INFO 503</b>	Management Principles for Informatics	2
<b>INFO 511</b>	Analytics	3
<b>INFO 521</b>	Database Development for Public Health	3
<b>INFO 532</b>	Principles of Geographic Information Systems	4
<b>INFO 540</b>	Informatics and Analytics for Public Health Surveillance	2
<b>INFO 550</b>	Software Engineering	2

### Certificate in Public Health Informatics for Leadership

The Certificate in Public Health Informatics for Leadership (Executive format) is designed for working professionals who serve in a leadership role or position of influence in their place of employment. These are individuals who have determined that they need competence in public health informatics but do not need an entire MPH degree. In order to qualify for the certificate, students are required to have a master's degree or higher OR they have a bachelor's degree with 3 years or more years of relevant work experience. The coursework covers the following overarching areas: introduction to public health informatics; overview of data sources, standards, and information systems;

management in the public health domain; information security and privacy; business aspects of public health informatics; and evaluation and research. The certificate focuses on providing proven methods and timely knowledge that drives leadership success in implementing informatics solutions in public health.

Courses Required for the Certificate in Public Health Informatics for Leadership (Executive format):

**APHI 520D:** Introduction to Public Health Informatics (2 credit hours)

**APHI 525D:** Overview of Data Sources, Standards, and Information Systems (2 credit hours)

**APHI 527D:** Public Health Technology Systems and Architectures (3 credit hours)

**APHI 535D:** Project Management and System Lifecycle (3 credit hours)

**APHI 545D:** Information Security and Privacy (2 credit hours)

**APHI 555D:** Applied Public Health Informatics Evaluation and Research (2 credit hours)

This program can be completed in three semesters of study, although some students may take longer.

### Certificate in Quantitative Methods in Public Health

The Certificate in Quantitative Methods in Public Health (Executive format) is designed for working professionals who have determined that they need additional quantitative skills to advance their employment opportunities. These individuals already have a master's degree or higher OR they have a bachelor's degree with 3 or more years of relevant work experience. Applicants must also submit GRE or MCAT scores that are less than five years old. The coursework covers the following overarching areas: description of public health problems of epidemiologic importance, data identification, design and conduct of epidemiologic research studies, management and analysis of data, literature review and interpretation, and information technology for scientific productivity. Students in the certificate will gain proficiency in SAS.

Courses Required for the Certificate in Quantitative Methods in Public Health (Executive format):

**AEPI 530D:** Applied Epidemiology I (3 credit hours)

**AEPI 534D:** Applied Epidemiology II (3 credit hours)

**AEPI 536D:** Epidemiological Modeling (3 credit hours)

**BIOS 516D:** Applied Biostatistics I (2 credit hours)

**BIOS 517D:** Applied Biostatistics II (2 credit hours)

**BIOS 518D:** Applied Biostatistics III (2 credit hours)

This program must be completed in three semesters of study due to the course sequencing.

### Certificates Earned in Conjunction with MPH/MSPH Degrees

RSPH offers six school certificate programs that degree-seeking students may earn in conjunction with their MPH/MSPH degrees as well as three collaborative certificate programs. The basic curriculum includes coursework, a relevant practicum/community-engaged field experience, and a culminating experience that relates to the topic of the certificate. Through the RSPH core and department requirements the student gains the MPH core competency knowledge as part of the degree program. The certificate curriculum identifies a set of competencies that will be met through the completion of the program. Certificate coursework (exclusive of the practicum and culminating experience) is **beyond**

**the core and required departmental non-elective courses** for fulfillment of the student's degree program, but may be counted as electives toward degree completion.

### Certificate in Genetic and Molecular Epidemiology

We are generating genetic and molecular data at a revolutionary pace, and these data are increasingly being integrated into epidemiologic studies. The Genetic and Molecular epidemiology (GME) certificate program at Rollins prepares students to assess, manage, and analyze these data in a public health context. Graduates of the GME certificate program will have exposure to principles of genetic epidemiology and molecular epidemiology. Through coursework, their practicum, and their culminating experience project, students will gain mastery of analysis and interpretation of genetic or molecular data as it applies to public health research.

GME certificate students will complete 13 hours of training through coursework, practicum and the culminating experience. The course requirements are listed below. Students apply to the GME certificate while enrolled in EPI 510: Introduction to Genetic and Molecular Epidemiology in their first semester. Students may enroll in EPI 510 and apply to the certificate in their second year with the permission of the certificate director.

#### Courses Required for the Certificate in Genetic and Molecular Epidemiology

<b>Pre-requisite</b>		
<b>EPI 510</b>	Introduction to Genetic and Molecular Epidemiology	1
<b>Core Courses</b>		
<b>EPI 590R</b>	Public Health Applications of Molecular Epidemiology I	2
<b>EPI 522</b>	Human Genome Epidemiology	2
<b>GME Electives (four credits total)</b>		
<b>EH 527</b>	Biomarkers in Environmental Public Health	2
<b>EH 520</b>	Human Toxicology	3
<b>EH 523</b>	Foundations of Neurotoxicology	1
<b>EH 740</b>	Foundations of Molecular Toxicology	1
<b>EPI 556</b>	Applied Genomic Epidemiology	2
<b>EPI 590R</b>	Methods in Obesity Epidemiology	2
<b>EPI 591L</b>	Methods in Nutritional Epidemiology	2
<b>GH 571</b>	Vaccines and Vaccine Preventable Diseases	2
<b>BIOS 555</b>	High-Throughput Data using R and BioConductor	2
<b>BIOS 570</b>	Methods in Statistical Genetics	2
<b>IBS 746</b>	Graduate Human Genetics (special permission)	4
<b>IBS 593</b>	Population and Quantitative Genetics (special permission)	4

Other courses may also be appropriate with special permission of the certificate director.

<b>Practicum</b>	0
<b>Thesis/Capstone</b>	4
<b>Field Experiences</b>	Attendance at field experiences is not required but is encouraged.

For more information please contact Dr. Jennifer Mulle ([jmulle@emory.edu](mailto:jmulle@emory.edu)) or Nicole Regan ([nicole.regan@emory.edu](mailto:nicole.regan@emory.edu))

## Certificate in Humanitarian Emergencies

The Rollins School of Public Health, in partnership with CDC's Emergency Response and Recovery Branch, offers a Certificate in Humanitarian Emergencies. It is an interdisciplinary program that combines the teaching and research strength of Emory University with the applied technical skills of the CDC's Emergency Response and Recovery Branch.

This is a rigorous and competitive certificate program intended only for those who meet the below criteria. Up to 25 students will be accepted into the certificate program each year. The application deadline is set for the second week in September of a student's first year and notifications are given by the 1<sup>st</sup> week of October.

### Criteria for Certificate

The ideal candidate for this certificate is a student who:

- Is interested in a career working in complex humanitarian emergencies.
- Has international development and/or relevant field experience in response or low-resource settings.
- Is committed to building practical field epidemiological methods skills in low-resource settings

### Certificate Requirements

Awarding the certificate requires students to be accepted into the program and then complete:

- Two core classes
- 6 credit hours of approved electives
- An approved methods course
- Research (thesis or 15 page paper) or practicum component
- 15 hours of CHE related volunteer participation

For more detailed information, please see the CHE website at [www.che.emory.edu](http://www.che.emory.edu).

## Certificate in Maternal Child Health (MCH)

The Certificate in Maternal and Child Health (MCH) at Rollins School of Public Health (RSPH) aims to equip students to become professionals for positions in governmental and non-governmental public health organizations serving women, infants, children and adolescents at local, regional, national, and international levels.

### Applicant Criteria

This is a rigorous and competitive certificate program intended for students that are committed to the development and promotion of the MCH field. Any current first-year student enrolled in the MPH or MSPH program at RSPH is eligible to apply for one of approximately 16 slots in September of their first year. Applicants should have demonstrated leadership and team player capabilities

### Program Requirements

The MCH Certificate requires 12 to 14 hours of course work, a culminating experience on a MCH topic, and a practicum related to MCH. Students who do not complete a MCH-related culminating experience must make up the credits with additional selectives.

- Core Courses (8 credits): Students are required to take four core courses:
  - o BSHE 596/EPI 596/GH 596/HPM 596 : Foundations in Maternal and Child Health (3 credits)—spring of first year
  - o HPM 502: Introduction to Healthcare Management (2 credits)—fall
  - o EPI 508R: Maternal and Child Health Leadership Collaborative Seminar (1 credit) - fall of second year
  - o EPI 509: Overview of Children with Special Health Care Needs (2 credits)-spring of second year
- Selectives (4-6 credits): Choose either quantitative or qualitative methods and one life course elective.
 

*Choose one methods course (cannot be required for student's degree program track):*

  - o Quantitative Methods: BIOS 501, EPI 565, EH 524, BSHE 530, BSHE 532, or GH 540 or GH 560
  - o Qualitative Methods: BSHE 524, BSHE 538, HPM 533, HPM 564, GH 522, GH 525, or GH 543

*Choose one life course:*

- o Pregnancy to Childhood: EPI 744, GH 546, GH 552, OR GH/EPI 566
- o Transition to Adulthood: BSHE 517
- o Reproductive Life: EPI/GH 550, EPI 746, GH 530, GH 539, GH 541, GH 547, GH 563 or GH 593
- o Women's Health: EPI 516 OR HPM 569

### Application Deadline

Full-time Students	September (Specific date TBA)
Part-time Students	Before completion of 15 credits hours
Program Acceptance	September of each year

If you have specific questions about the MCH Certificate Program, please contact Nicole Regan, program coordinator, at [nicole.regan@emory.edu](mailto:nicole.regan@emory.edu). More general information is available on the MCH Certificate website at [www.sph.emory.edu/academics/certificates/maternal-child-certificate/index.html](http://www.sph.emory.edu/academics/certificates/maternal-child-certificate/index.html).

## Certificate in Mental Health

Mental health is integral to and inseparable from public health. This interdepartmental program addresses the interface of mental health and public health and is intended to enhance the competencies of students concentrating in any of the school's departmental programs. Students completing the program will be able to epidemiologically describe the burden of mental illness on society, apply theories and evaluate empirical evidence on determinants of mental health, design and critique interventions intended to promote mental health and identify the sources of financing and public policies that affect mental health services.

### Certificate Requirements

- BSHE 585 Introduction to Public Mental Health, 1 credit hour
- BSHE 592/HPM 592, Case Studies in Public Mental Health, 2 credit hours  
This course is the core course for the Certificate in Mental Health. Offered each spring, any current first year student enrolled in the MPH or the MSPH program at RSPH that plans to pursue the Certificate in Mental Health must enroll in BSHE 592/HPM 592. Participating certificate students will be identified based on their enrollment in this course.
- Practicum in aspect of public mental health, a minimum of 200 hours
- Thesis or capstone project on topic in public mental health
- A minimum of 6 credit hours from the following courses or courses approved by Dr. Benjamin Druss or Dr. Delia Lang:
  - BSHE 512 Medical Sociology, 3 credit hours
  - BSHE 516 Behavioral Epidemiology, 3 credit hours
  - BSHE 560R Mental Health Seminar, 1 credit hour
  - BSHE 581 Stress Reduction, 1 credit hour
  - BSHE 586 Prevention of Mental and Behavioral Disorders, 2 credit hours
- BSHE 587 Substance Abuse, 2 credit hours
- BSHE 588 Addiction, the Brain, History and Culture, 3 credit hours
- BSHE 589 Mental Illness, Public Health and American Culture in Interdisciplinary Perspective, 3 credit hours
- EPI 589 Psychosocial EPI, 2 credits hours
- GH 531 Mental Health in Complex Humanitarian Emergencies, 1 credit hour
- HPM 563 Long Term Care Policy and Practice, 2 credit hours
- HPM 577 Mental Health/Medical Interface, 2 credit hours
- SOC 330 Mental Health and Well-Being, 4 credit hours
- SOC 513, Perspectives on Mental Health, 2 credit hours
- Any 300 level or above Psychology classes

If the topic of the capstone or thesis cannot relate to public mental health, four additional credits of electives may be substituted with the permission of the certificate coordinator. Permission for the substitution must be obtained early in the second year of

the program. For more detailed information about the certificate including the enrollment process, please see the website at <https://www.sph.emory.edu/academics/certificates/certificate-mh/index.html>

## Certificate in Socio-Contextual Determinants of Health Program

The Certificate Program in the Socio-Contextual Determinants of Health welcomes students who are committed to studying and intervening in the social conditions (e.g., laws banning same-sex marriage, neighborhood poverty rates, structural racism) that shape health and well-being across and within populations. This certificate program provides a range of intellectual, academic, research, and professional development opportunities that are designed to strengthen students' abilities to pursue related careers. Students committed to advancing social justice and/or to eradicating health disparities will find this certificate program a particularly good fit for their interests.

### Certificate Requirements

- Complete one of two core courses (Social Epidemiology or Macrosocial Determinants of Health) and earn a B+ or above.
- Complete six credits of elective coursework, chosen from the certificate program's course roster and earn grades of B+ or above in the courses.
- Complete a capstone project/thesis on a topic related to the socio-contextual determinants of health.
- Attend two colloquia each semester enrolled in the certificate.

For more detailed information about the certificate including the enrollment process, please see the website at <https://www.sph.emory.edu/academics/certificates/socio-contextual-determinants-health/index.html>

## Certificate in Water, Sanitation, and Hygiene

The Certificate in Water, Sanitation, and Hygiene (WASH) at the Rollins School of Public Health (RSPH) is offered through the Center for Global Safe WASH at Emory University and aims to train graduate students to be competitive for WASH-related careers. This is a rigorous, self-guided certificate program open to all RSPH students.

### Certificate Requirements

- Complete a minimum of 12 credit hours of WASH-related coursework, with at least one methods-related course and one biology-related course
- Maintain a cumulative GPA of 3.3 or greater in all WASH-related courses
- Attend two CGSW-sponsored seminars per year (four total);
- Successfully complete a WASH-related practicum; and,
- Successfully complete a WASH-related capstone/thesis.

For more detailed information, including contact information, course schedule, and forms, please see the WASH Certificate website at <https://www.sph.emory.edu/wash/>.

## Special Programs

### RSPH Global Service Prep Course

This program is a unique opportunity for students to combine public health education with practical field experience. Global Service Prep students apply to any department at RSPH and will complete all MPH/MSPH course work before they begin their global service. Completion of the program requires a minimum of twelve months in residence at Emory and global service experience following their time at Rollins. Students will be awarded a grant of approximately \$2,500 during the final semester at RSPH, contingent upon an invitation to serve in a pre-approved global service setting. Each semester, students participating in the program will enroll in a special community engaged learning seminar that includes classroom sessions and volunteering weekly with a community organization that serves the refugee population, the Clarkston- Rollins Connection (ClARC) program. The program is designed to improve students' ability to become leaders and innovators to make positive, sustainable contributions to improving the health and well-being of the international communities in which they serve. For further information, visit the program's website at <https://www.sph.emory.edu/rollins-life/community-engaged-learning/masters-international>.

### Paul D. Coverdell Fellows Program for Returned Peace Corps Volunteers

There is a vibrant and thriving Peace Corps community at the Rollins School of Public Health at Emory University, including 19 Paul D. Coverdell Fellows, 70+ total RPCVs enrolled in the MPH program. The perspective that Peace Corps experience offers is valued in and out of the classroom.

In order to be considered for RPCV funding, applicants must be admitted to any department for the MPH/MSPH degree program and answer the supplemental questions on the SOPHAS application that indicates "Current/Returned Peace Corps Volunteer". All RPCVs admitted to RSPH by the priority merit deadline are considered for the Paul D. Coverdell Fellows program or the RSPH RPCV Scholarship. Students not selected as Coverdell Fellows are automatically awarded the RSPH RPCV Scholarship of \$15,000.

Both the Paul D. Coverdell Peace Corps Fellowship and the RSPH Returned Peace Corps Volunteer Scholarship programs advance the third goal of the Peace Corps, to help promote a better understanding of other peoples on the part of Americans by developing and maintaining educational partnerships that place returned volunteers in internships in underserved U. S. communities. These programs also support RSPH's mission by creating an environment supporting excellence in service, and training of leaders to promote health and prevent disease in human populations around the world.

#### Fellows Application Process

The Coverdell Fellowship is a special program for RPCVs to coordinate the Masters International and Community Engaged Learning programs throughout the duration of their degree program. This program requires 2 years (4 fall/spring semesters) of full time enrollment at Rollins in order to fulfill the additional job responsibilities associated with the Fellowship. RPCVs are nominated by their department for merit scholarship consideration and are reviewed by the Peace Corps programs committee to select

5-10 Fellows each year. A call for interest is sent to all admitted RPCVs at the time of the priority deadline. Applicants then complete a supplemental application detailing their skills and interests specific to the RSPH Coverdell Fellows program. Fellows are selected based on their demonstrated leadership, initiative and innovation as well as an ongoing commitment to service and community as demonstrated by the information submitted on the SOPHAS application.

The Paul D. Coverdell Peace Corps fellows are responsible for: (1) Facilitating the weekly Clarkston-Rollins Connection seminar and facilitating the Masters International seminars; (2) Organizing community projects with refugee organizations in the Atlanta area which utilize strategies similar to those employed in the field by Peace Corps Volunteers; (3) Maintaining an active and engaged campus Peace Corps community via regular service and social events for Returned Peace Corps Volunteer (RPCV) on and off campus; (4) Leading and participating in committees in collaboration with peers and officials across campus in order to carry out program responsibilities; (5) Collaborating through service with local organizations to address issues affecting the refugee population and Clarkston communities (i.e. language, culture, career options, access to healthcare and other resources).

For more information contact [peacecorps@emory.edu](mailto:peacecorps@emory.edu) or visit [www.sph.emory.edu/rollins-life/community-engaged-learning/returned-peace-corps-volunteers](http://www.sph.emory.edu/rollins-life/community-engaged-learning/returned-peace-corps-volunteers).

#### AmeriCorps/Service Corps Student Leaders

The Rollins School of Public Health greatly values the experience, perspective and service of students connected to AmeriCorps and national service. In recognition of the ongoing commitment to service and leadership at RSPH, a \$6,000 award is offered to admitted students in any department who have completed a minimum of one year of service (1,700 full time hours) with a national volunteer agency like AmeriCorps or an AmeriCorps-affiliated agency. This group of students meets with fellow service corps alumni throughout the year for ongoing volunteer service, team-building and social activities and to plan and execute initiatives to promote and inspire service in the local community. Service Corps Student Leaders help to facilitate the annual Rollins-teer Day of Service during orientation as well as additional activities, events and dialogue that connect their previous experiences to current coursework and public health interests.

## Doctoral Programs

Doctoral programs are offered by the Departments of Behavioral Sciences and Health Education, Biostatistics and Bioinformatics, Epidemiology, and Health Policy and Management through the Laney Graduate School. Information about the programs, requirements for admission, and application procedures are available from the Laney Graduate School, Emory University, Atlanta, GA, 30322, by telephone at 404.727.6028 or on the web at [www.graduateschool.emory.edu](http://www.graduateschool.emory.edu). Information also is available from the directors of each doctoral program in the Rollins School of Public Health. Also refer to [www.sph.emory.edu/academic\\_programs/degree\\_programs.html](http://www.sph.emory.edu/academic_programs/degree_programs.html) or specific information.

### Behavioral Sciences and Health Education

Kimberly Jacob Arriola, PhD, MPH, Director of Graduate Studies

Gary Huskey, Program Administrator  
404.727.3546 [ghuskey@emory.edu](mailto:ghuskey@emory.edu)

### Biostatistics

Limin Peng, PhD, Director of Graduate Studies

Melissa Sherrer, Assistant Director of Academic Programs  
404.727.3968 [msherre@emory.edu](mailto:msherre@emory.edu)

### Environmental Health Sciences

Jeremy Sarnat, ScD, Director of Graduate Studies

Ariadne Swichtenberg, Associate Director of Academic Programs  
404.727.7905 [ariadne.swichtenberg@emory.edu](mailto:ariadne.swichtenberg@emory.edu)

### Epidemiology

Julie A. Gazmararian, PhD, MPH, Director of Graduate Studies

Jena Black, Associate Director of Academic Programs  
404.727.8729 [jena.black@emory.edu](mailto:jena.black@emory.edu)

### Health Services Research and Health Policy

Jason Hockenberry, PhD, Director of Graduate Studies

Kent Tolleson, Program Administrator  
404.727.3211 [ktolles@sph.emory.edu](mailto:ktolles@sph.emory.edu)

### Nutrition and Health Sciences (Collaborative Program)

Usha Ramakrishnan, PhD, Director

Aryeh Stein, PhD, Director of Graduate Studies

Catherine Hall, Program Administrator  
404.727.2546 [nhs@emory.edu](mailto:nhs@emory.edu)

## Collaborative Programs

### Master of Science in Clinical Research

[www.ACTSI.org/retcd](http://www.ACTSI.org/retcd)

Henry M. Blumberg, MD, Program Director  
Thomas R. Ziegler, MD, Co-program Director

The Atlanta Clinical and Translational Science Institute (ACTSI) (NIH-funded CTSA), presents the Master of Science in Clinical Research (MSCR) degree program through the Emory Laney Graduate School. This program provides didactic and mentored clinical and translational research training. The goal of this degree is to provide the educational background for physicians and other doctoral scientists who need and desire the analytic and related skills for clinical investigation. It teaches modern clinical scientific research methods that involve investigative and evaluative medicine and addresses the national shortage of skilled clinical research physicians. The CTSA has made it possible to expand the program to include predoctoral trainees and award the dual degrees of MD/MSCR and PhD/MSCR.

The program provides training in analytic epidemiology, analytic and statistical reasoning, hypothesis development, data collection and management, scientific writing, clinical trial protocol design for interventional and observational studies, and legal, ethical, social, and regulatory issues related to clinical research.

### Requirements

The program requires the completion of thirty semester hours of academic credit. This includes in-class didactic study, grant application, and a research thesis. Although many in this course of study have clinical and other obligations, full-time students normally devote approximately forty hours per week for class-related activities. Most students complete the program in two years. Didactic work is scheduled in afternoons to facilitate those with patient clinical commitments.

### Required Courses for the Master of Science in Clinical Research

Fall Semester	Course Title	Credit Hour
<b>MSCR 500</b>	Biostatistics for Clinical Research	3
<b>MSCR 530</b>	Analytic Methods for Clinical Research I	3
<b>MSCR 533</b>	Data Management for Clinical Research	2
<b>MSCR 761</b>	Introduction to Clinical Research Medicine	2
<b>MSCR 591</b>	Community Engagement and Health Disparities in Clinical Research	1
<b>MSCR 595</b>	Health Services Research	1

Spring Semester	Course Title	Credit Hours
MSCR 534	Analytic Methods for Clinical Research	2
MSCR 536	Analysis of Clinical Research Data	2
MSCR 592	Clinical Research Colloquium	1
MSCR 509	Fundamentals of Bioinformatics	2
MSCR 593	Ethical, Legal and Social Issues of Responsible Clinical Research	1
MSCR 520	Clinical Trial Design and Analysis	2
MSCR 594A	Scientific and Grant Writing	1
Fall Semester	Course Title	Credit Hours
MSCR 594B	Scientific and Grant Writing (fall semester, second year)	1
Summer Semester	Course Title	Credit Hours
RES599MSCR	Research	6

*Required rotation in the Emory Clinical Research Network (CRN); required rotation observing IRB meeting*

**Total Hours for Degree 30**

#### Administration and Application Information

Program co-directors are Henry M. Blumberg, professor of medicine, epidemiology and global health, Division of Infectious Diseases, Emory School of Medicine, and Thomas R. Ziegler, professor of medicine, Division of Endocrinology, Emory School of Medicine. The Master of Science in Clinical Research program is supported by the National Institutes of Health Clinical and Translational Science Award (CTSA).

To learn more about the admission process, contact Cheryl Sroka, program coordinator at 404.727.5096 or email: [csroka@emory.edu](mailto:csroka@emory.edu).



### Doctoral Program in Nutrition and Health Sciences

The Rollins School of Public Health collaborates with the School of Medicine and the Graduate School of Arts and Sciences, Division of Biological and Biomedical Sciences, in offering the Program in Nutrition and Health Sciences. The goal of the program is to train students to investigate how nutrients, toxins, drugs, and other environmental factors affect human health. The training combines molecular/cellular approaches with population/epidemiological approaches. A catalog describing the program and additional information can be obtained from the director. Contact Usha Ramakrishnan, Department of Global Health, Rollins School of Public Health, 1518 Clifton Road, NE, Atlanta, Georgia 30322; 404.727.2546, [uramakr@emory.edu](mailto:uramakr@emory.edu).

### Molecules to Mankind Program

Directed by Nael McCarty, PhD, and Julie Gazmararian, PhD, MPH, the Molecules to Mankind Program (M2M) is funded by the Burroughs Wellcome Fund and the Laney Graduate School. Since the fall of 2010, M2M has brought together PhD students from several interdisciplinary areas of the Laney Graduate School. Since then, M2M has served as a unique PhD pathway designed to educate graduate students in both laboratory and population sciences. Students study in one of four educational tracks (Predictive Health and Society, Population Processes and Dynamics of Infectious Diseases, Biomarkers and the Development of Acute and Chronic Diseases, and Public Health Genomics). The students work with faculty mentors from a broad spectrum of academic disciplines from Emory College, the School of Medicine, and the Rollins School of Public Health. Students are required to complete academic requirements and attend the M2M capstone course, M2M700, in the spring and fall semesters. These classes are very engaging and interactive with a goal of bridging the laboratory and population sciences. For further information visit [www.m2m.emory.edu](http://www.m2m.emory.edu).

### The Emory Graduate Certificate in Human Rights

The Institute of Human Rights at Emory provides an opportunity for faculty and students to further their understanding of the theories and issues of human rights. The Emory Graduate Certificate in Human Rights is an integrated, innovative, and cooperative approach to human rights scholarship and training. The certificate combines the teaching and research strength of Emory University with the applied programs of our professional partners, including CARE USA, The Carter Center, and the US Centers for Disease Control and Prevention. Faculty in several schools at Emory, including the Emory College, the Graduate School of Arts and Sciences, the School of Law, the Rollins School of Public Health, the Goizueta Business School, the Nell Hodgson Woodruff School of Nursing and the Candler School of Theology, have been involved in building an academic human rights program at Emory University.

#### Requirements

Awarding of the certificate requires students to complete the following:

Graduate Certificate Documentation: Students are encouraged to meet with one of the faculty members in order that they might direct your course of study.

Core Seminar—Interdisciplinary Perspectives on Human Rights (POLS585/ GH526/ LAW819)

Two additional approved courses: Students in the Rollins School of Public Health are required to take two additional (for a total of six classroom hours) from the approved course listing found on the website at <http://humanrights.emory.edu/sub-educational.htm>. Research practicum: Students have several options which will fulfill the research practicum requirement. Students may pursue a service-learning internship at a local or international human rights organization. The Institute of Human Rights helps coordinate placements, if requested. Students may also fulfill the research practicum requirement by completing a research paper focusing on human rights or by having a substantive human rights emphasis in their thesis or dissertation.

Additional information about the Institute of Human Rights and the certificate program may be found on their website at <http://humanrights.emory.edu>.

### **Certificate in Injury and Violence Prevention**

The Certificate in Injury and Violence Prevention is designed to give MPH and doctoral students a foundation in theoretical and epidemiologic concepts of injury prevention and control and a platform from which to examine the causes, consequences, and prevention strategies used in our society. Combining multidisciplinary course work, research, practical experience, and access to a vast injury prevention network, this certificate will broaden students' perspectives on a complex issue while preparing them to become leaders of injury prevention within their chosen discipline. For additional information, please see [www.emorycenterforinjurycontrol.org/certificate/](http://www.emorycenterforinjurycontrol.org/certificate/).

### **Religion and Health Certificate**

The certificate in Religion and Health provides an opportunity for the interdisciplinary study of health and health-promoting practices as they intersect with the various religious or spiritual traditions and practices. Through the integration of perspectives from a variety of disciplines in the health and social sciences, particularly those in nursing, public health, theology and religion, students will develop theories and practices in which the personal, communal, and social dimensions of health intersect.

#### **Key Components of the Certificate**

- This is currently a certificate for degree-seeking students and provides a structure to take two courses outside their primary degree school and to tailor existing academic requirements.
- These "requirements" include:
  1. A 3-hour core course titled Faith and Health: Transforming Communities.
  2. An orientation at the beginning of each year and an integrative paper/thesis (1 hour)
  3. Elective courses equivalent to 9 credit hours (RSPH thesis credit hours can be used here)
  4. Practice component in faith and health that fits the requirements in the discipline which the student is enrolled.
  5. Participation in University-wide special lectures and seminars in religion and health.

For additional information, students may contact Mimi Kiser in the Rollins School of Public Health, [mkiser@sph.emory.edu](mailto:mkiser@sph.emory.edu), 404.727.5199 or Karen Scheib at Candler School of Theology, [kscheib@emory.edu](mailto:kscheib@emory.edu), 404.727.2423.

### **Biostatistics Consulting Center**

The Biostatistics Consulting Center (BCC) offers comprehensive statistical consultation and computational services to the University community. Obtaining biostatistical advice early in a project can often improve the chances that the study will meet its objectives. BCC personnel are available for discussion at all stages of research, including preparation of grants and contracts, assistance in analyzing and presenting research data, and statistical review of manuscripts in the publication process.

The BCC has access to a broad range of computer hardware and software, along with personnel with expertise in using major statistical, graphics, and data management packages. Its primary interest is in assuring appropriate use of statistical methodology in research. The BCC also offers a full range of biostatistical and bioinformatics services from database development, implementation, and maintenance, to production of publication-quality graphic and tabular material that supports the presentation and publication of research results. The Biostatistics Consulting Center's Director is Renee Moore, PhD, Research Associate Professor Biostatistics and Bioinformatics.

### **Center for AIDS Research at Emory University**

Funded by the National Institutes of Health, the Center for AIDS Research at Emory University (CFAR) is the hub of a multidisciplinary community of science that has brought RSPH and Emory to international prominence as a center of excellence in HIV research. Under the shared leadership of RSPH Dean James W. Curran, RSPH Hubert Department of Global Health Chair Carlos del Rio, and Georgia Research Alliance Eminent Professor Eric Hunter, the CFAR has three main goals: (1) To stimulate, support, sustain, and expand high priority HIV research that will prevent new infections, improve the well-being of people with or at risk for HIV, and move toward the discovery of a vaccine and a cure; 2) to translate HIV research findings into interventions that will lessen the impact of HIV locally and globally; and 3) to identify, train, mentor, and support the next generation of HIV researchers and scientific leaders. CFAR currently serves more than 150 HIV investigators across the University whose extramural HIV research funding totaled more than \$68 million in 2015. Four of CFAR's seven core facilities are located at RSPH: Administrative, Developmental, Prevention Science, and Biostatistics & Bioinformatics. The CFAR welcomes RSPH student involvement in CFAR-supported activities and events. For further information, go to <http://www.cfar.emory.edu/>.

### **Center for Behavioral Health Policy Studies**

The Center for Behavioral Health Policy Studies (CBPS) uses data to improve the lives of people living with mental and substance-use disorders. The multidisciplinary team of faculty, staff, and students located in the Department of Health Policy and Management in Emory's Rollins School of Public Health conduct research on topics related to mental health and substance use including analysis of surveys and large-claim databases, design and implementation of intervention trials, and policy analysis. There is a particular focus on adults and children treated in public safety-net settings. The center trains master's, doctoral, and postdoctoral students interested in mental health and substance-use research and policy and works with local, state, and federal leaders to develop and evaluate programs and policies with the goal of improving quality and outcomes of care for people with behavioral disorders. The center's director is Benjamin G. Druss MD, MPH, professor of health policy and management and Rosalynn Carter Chair in Mental Health.

### Center for Biomedical Imaging Statistics

The Center for Biomedical Imaging Statistics (CBIS) conducts research on statistical methods for analyzing data from biomedical imaging studies. CBIS's research and collaborations have primarily focused on brain imaging. Additionally, we have worked in cardiac imaging and in cancer applications, including brain tumor, breast and prostate cancer imaging, among others. CBIS currently develops statistical methods for data acquired from various imaging modalities including functional magnetic resonance imaging (fMRI), structural magnetic resonance imaging (sMRI), diffusion tensor imaging (DTI), positron emission tomography (PET), single photon emission computed tomography (SPECT), digital mammography (DM), electroencephalography (EEG), computed tomography (CT) and magnetic resonance spectroscopic imaging (MRSI). CBIS Director is Ying Guo, PhD, Associate Professor of Biostatistics and Bioinformatics. For further information go to <http://web1.sph.emory.edu/bios/CBIS/>.

### Center for Global Safe Water, Sanitation & Hygiene

The Center for Global Safe WASH at Emory University conducts applied research, monitoring and evaluation, and training and capacity building to promote global health equity through universal access to safe water, sanitation, and hygiene solutions for the world's most vulnerable populations. Established in 2004, the CGSW includes over 70 faculty, doctoral fellows and research staff, and >50 post-doctoral and MPH students in the Rollins School of Public Health at Emory. Faculty, staff and students join in research and practice around the CGSW's principal mission of enabling organizations and communities to provide effective and sustainable solutions and programs for safe drinking water, sanitation and hygiene (WASH) improvements. Many CGSW activities are in partnership with CARE USA, the CDC, the Carter Center, and the Georgia Institute of Technology (GA Tech University) as the primary members of the related Atlanta Consortium for Safe WASH.

CGSW projects are multi-disciplinary and address a wide range of U.S. domestic and global WASH topics: water reuse, equity of WASH access, WASH in schools, WASH in slums, WASH in healthcare facilities, WASH and neglected tropical diseases, WASH and menstrual hygiene management, WASH and climate change, etc. Center faculty and staff have ongoing research projects in approximately 18 countries. In 2012, the CGSW introduced the Graduate Certificate in Water, Sanitation, and Hygiene (WASH) at the Rollins School of Public Health. The WASH Certificate is a rigorous, self-guided certificate program that aims to increase the competitiveness of RSPH students for WASH-related careers. Students trained by faculty and experts associated with the CGSW learn how to conduct water and sanitation research, implement interventions, deliver WASH education, and evaluate and monitor WASH programs in the U.S. and overseas. Courses taught by CGSW faculty provide students with the essential skills needed to design, implement, and evaluate water and sanitation technologies, interventions, and policies. The CGSW Director is Christine Moe, PhD, Eugene J. Gangarosa Professor of Safe Water and Sanitation, in the Hubert Department of Global Health. For additional information about the CGSW and/or the Graduate Certificate in WASH, please visit [www.cgswash.org](http://www.cgswash.org).

### Center for the Health of Incarcerated Persons

The Center for the Health of Incarcerated Persons (CHIP) intends to improve the health of those passing through correctional facilities, to promote the conduct of ethically responsible and scientifically rigorous health research in prisons, jails and post-incarceration settings, and to promote collaboration among researchers with an interest in correctional health. Members include RSPH faculty, pre and post-doctoral and investigators and staff of correctional institutions, health professionals and leaders of community-based organizations. The Center Director is Anne C. Spaulding, MD, MPH, Associate Professor of Epidemiology.

### Center for Humanitarian Emergencies at Emory CHE@Emory)

The Center for Humanitarian Emergencies at Emory (CHE@Emory) drives global collaboration, research and evidence-based training to improve the lives and well-being of populations impacted by humanitarian emergencies. The CHE@Emory combines the teaching and research strength of the RSPH with the applied technical skills of CDC's Emergency Response and Recovery Branch (ERRB). Synergistically, the CHE@Emory offers a variety of programs designed to increase domestic and international capacity for effective response to complex humanitarian emergencies. These programs include 1) a Certificate in Complex Humanitarian Emergencies open to Rollins School of Public Health students on a competitive basis; 2) the Global Humanitarian Emergency Fellowship, a competitive fellowship that invests in its fellows to create public health leaders in developing countries; and 3) International, field-based practicum opportunities designed to educate and train students to work in global humanitarian emergencies. Notably, CHE@Emory has a larger cadre of technical experts in global humanitarian emergencies than any other university or public health school in the world, including 21 technical experts from ERRB serving as adjunct faculty in the Hubert Department of Global Health. Together, Emory and CDC share a joint vision of improving the lives of populations impacted by global humanitarian emergencies. The Center Director is Dabney Evans, PhD, MPH, Assistant Professor in the Departments of Behavioral Sciences and Health Education and the Hubert Department of Global Health.

### Center for Spina Bifida Research, Prevention and Policy

A collaboration between Emory's Department of Pediatrics, the Rollins School of Public Health and the Sophie's Voice Foundation, the center's primary goal is the global prevention of folic-acid preventable spina bifida. The center will also create programs to help advance the quality of life for individuals living with spina bifida, including individuals transitioning from pediatric to adult care. The center director is Godfrey P. Oakley, MD, Professor of Epidemiology.

### Center for Translational and Prevention Science (CTAPS)

The CTAPS at Emory and the University of Georgia brings together researchers to: (1) study the neuroendocrine, inflammatory, and neurocognitive pathways through which chronic stress affects African American's vulnerabilities to drug use and HIV risk behavior; and (2) translate these findings into new and refined preventive interventions for rural African Americans. The center director is Gene Brody, PhD, and the Emory PI is Michael Windle, Ph.D., both Professors of Behavioral Sciences and Health Education.

### Emory Center for Training and Technical Assistance

The mission of the Emory Centers for Training and Technical Assistance is to build capacity within the public health field, by providing training and technical assistance to public health professionals and organizations nationwide to help them design, implement, and evaluate effective programs and policies. Two dedicated centers, the Diabetes Training and Technical Assistance Center (DTTAC) and the Tobacco Technical Assistance Consortium (TTAC), have provided tailored capacity-building services to community, state and national programs in all 50 states and territories since 2001. Focus areas include: developing the public health workforce through toolkits for self-study, web-based courses, webinars, and on-site training sessions; translating and diffusing evidence-based programs and strategies; and creating and managing public health online learning communities and networks. This work is funded by grants and contracts with a wide range of federal agencies, state and local health departments, and national and community-based foundations and nonprofit organizations. The Center Director is Linelle Blais, PhD, CPF, Research Associate Professor of Behavioral Science and Health Education. For further information, visit [www.tacenters.emory.edu](http://www.tacenters.emory.edu).

### Emory Global Diabetes Research Center

The Emory Global Diabetes Research Center (EGDRC), leverages an extensive global network to develop and advance the abilities of Emory, US, and non-US researchers to engage in world-class research in diabetes and other related non-communicable diseases such as stroke, hypertension, heart disease and co-morbid conditions such as cardiovascular diseases, cancers, tuberculosis, mental health, and HIV. EGDRC provides opportunities for faculty, fellows, and students to understand causes and consequences, investigate better treatments and care delivery, investigate prevention methods, and inform policy by exploring risk factors. EGDRC also partners with the Centre for Control of Chronic Conditions (4C), a collaboration between the Public Health Foundation of India (PHFI), All India Institutes of Medical Sciences (AIIMS), Emory University, and the London School of Hygiene and Tropical Medicine. Also housed within the EGDRC is the NIDDK-funded P30 Georgia Center for Diabetes Translation Research (GCDTR). GCDTR is a partnership between Emory University, Georgia Institute of Technology, and Morehouse School of Medicine, and is aimed at closing the gaps in diabetes prevention and control in Georgia. Dr. K. M. Venkat Narayan, Ruth and O.C. Hubert Chair in the Hubert Department of Global Health directs EGDRC, and the following are core faculty: Mohammed Ali, Solveig Cunningham, Mary Beth Weber, Lisa Stamez, Shivani Patel and Felipe Lobel. For further details: see <http://diabetes.emory.edu/> and <http://diabetes.emory.edu/research/GCDTR.html> or contact Mark Hutcherson, Executive Director.

### Emory Prevention Research Center

Founded in 2004, the Emory Prevention Research Center (EPRC) focuses on community-based cancer prevention and the reduction of health disparities in rural Georgia. The EPRC conducts research and evaluation studies to understand how social and physical environments affect tobacco use, physical activity, nutrition, obesity and cancer screening. Much of the EPRC's research is developed in collaboration with community partners in rural, southwest Georgia. Its mission is to become a hub of interdisciplinary chronic disease prevention research, training, and practice at Emory and to strengthen community-engaged research partnerships. The EPRC is dedicated to improving the lives of Georgia residents by developing and testing innovative interventions, evaluating promising practices, and training practitioners on evidence-based practices to prevent cancer and other chronic diseases. The Director is Michelle Kegler, DrPH, Professor of Behavioral Sciences and Health Education. For additional information go to [www.sph.emory.edu/EPRC/](http://www.sph.emory.edu/EPRC/).

### Georgia Center for Cancer Statistics

The Georgia Center for Cancer Statistics (GCCS), located within the Department of Epidemiology, serves as the designated agent of the Georgia Department of Public Health for conducting the activities and oversight of the population-based Georgia Cancer Registry. Founded in 1976, GCCS is one of the original members of the National Cancer Institute's Surveillance, Epidemiology and End Results (SEER) Program and is also now a member of the National Program of Cancer Registries (NPCR) from the United States Centers for Disease Control and Prevention. GCCS is devoted to population-based cancer surveillance, cancer control and cancer research for the state of Georgia. The Center has extensive experience with cancer surveillance and control activities, population science, population-based registry data, registry operations, data security, electronic capture of cancer case data, linkage of data to external data sources, and uses of the registry for research purposes. The Center collaborates with students and researchers across the nation to analyze existing registry datasets (like SEER-Medicare or SEER-MHOS) and to utilize the population-based Georgia Cancer Registry as a linkage source or sampling frame for countless research studies. Data from this Center furthers our understanding of cancer in Georgia and is used to develop strategies and policies for cancer prevention and control. The Director is Kevin Ward, PhD, Research Assistant Professor of Epidemiology. [Web1.sph.emory.edu/GCCS/cms/index/html](http://Web1.sph.emory.edu/GCCS/cms/index/html).

### Georgia Center for Diabetes Translation Research

The Georgia Center for Diabetes Translation Research (GCDTR) is a collaboration between Emory, Georgia Tech, and Morehouse School of Medicine. GCDTR is one of eight NIDDK-funded Centers for Diabetes Translation Research in the US. With its broad base of expertise, the mission of the center is to facilitate and grow Type 2 translation research in diabetes within the state of Georgia. The GCDTR offers translation research cores (Design and Evaluation; Engagement and Behavior Change; and Disparities) designed to be responsive to the need to close remaining gaps in diabetes detection, prevention, and care, and to the changing profile of the US diabetes population. The GCDTR's Regional Core, Enrichment Program, and Pilot and Feasibility Program provide a linkage to expert faculty, tools and funding opportunities, in addition to hosting

online and in-person platforms to engage with GCDTR and its base of communal resources. Emory's center members cut across disciplines, with representatives from the schools of Public Health, Medicine, Nursing and Business. The center is directed by Dr. K. M. Venkat Narayan, Ruth and O.C. Hubert Chair in the Hubert Department of Global Health. For further details: see [www.gcdtr.org](http://www.gcdtr.org) or contact M'balu Conteh, Program Director, [econteh@emory.edu](mailto:econteh@emory.edu).

### **HERCULES: Health and Exposome Research Center**

In collaboration with GeorgiaTech, the HERCULES: Health and Exposome Research Center is one of twenty Environmental Health Sciences Core Centers funded by the National Institutes of Environmental Health Sciences. Led by Dr. Gary Miller (Center Director) and Dr. Paige Tolbert (Deputy Director), the Center is designed to enhance environmental health sciences research on campus by focusing on innovation. The environment, broadly defined, plays a major role in health and disease, but has been underrepresented in the research community. The exposome provides a potential vehicle to better incorporate the environmental component into the study of disease and health. HERCULES provides key infrastructure and expertise to develop and refine new tools and technologies. Key among these are the Integrated Health Sciences Facility Core and the Systems Biology Core which can develop the needed tools to assess the exposome. The former will help generate exposure data, improve metabolomic approaches, and facilitate clinical studies, while the latter will help synthesize the data into comprehensive computational models. Promoting exposome-related research has the potential to stimulate discovery, promote collaboration, and enhance communication. The Center works to foster an intellectual climate that encourages innovation and collaboration in order to pursue key challenges in environmental health sciences. For additional information please refer to [emoryhercules.com](http://emoryhercules.com). Dr. Gary W. Miller is the director of HERCULES.

### **Injury Prevention Research Center at Emory**

In the United States, one person dies every three minutes from an injury – that's more than 190,000 deaths per year. In fact, injury is the leading cause of death for people ages 1-44, and remains in the top 10 leading causes of death for all other age groups. The Injury Prevention Research Center at Emory (formerly known as the Emory Center for Injury Control) is dedicated to being the leader in injury prevention and research, and dramatically reducing injury in the communities we serve. Established in 1993, the Injury Prevention Research Center at Emory (IPRCE) uses a data driven approach to address the most significant injury concerns in communities of interest to the Center. This is accomplished through multidisciplinary task forces utilizing data to address gaps in translational research that provides solutions to our most formidable injury challenges. Currently, the IPRCE is supported by a multi-institutional leadership team representing universities, government, non-profit agencies, and over 170 researchers. Contact Sharon Nieb, PhD, Associate Program Director, Department of Emergency Medicine, Emory University School of Medicine: [sharon.lynn.nieb@emory.edu](mailto:sharon.lynn.nieb@emory.edu)

### **Interfaith Health Program**

The Interfaith Health Program examines religion's role as a social force that impacts health beliefs and behaviors as well as health policies in both domestic and international contexts. Recognizing that religion may either contribute to public health or stand in tension with public health, IHP builds partnerships with religious, academic, and civil

society partners to support projects that advance health. Through its interdisciplinary research and community-based programs, IHP attempts to mobilize religion as a positive force for human rights, social justice, and culturally relevant public health initiatives. IHP faculty and staff are scholars and practitioners in community health, religious studies, health policy, and sociological studies and they combine teaching, scholarship, and practice in a variety of contexts both here in the U.S. and abroad. IHP maintains a robust website with a comprehensive bibliography, document and resource center, interactive forums, descriptions of current projects, and news for those interested or working in public health and religion. Students participate in IHP activities as interns or employed graduate research assistants. IHP offers an innovative international study opportunity for Emory students that combines classroom study on religion, health, and development with student peers and faculty from St. Paul's University in Kenya and an eight-week field placement in a Kenyan FBOs. The Director is Sandra Thurman, Lecturer in Global Health. For further information go to <http://www.interfaithhealth.emory.edu>.

### **The Joseph W. Blount Center for Health and Human Rights**

The Blount Center endeavors to build bridges between academic, governmental, non-governmental, and religious institutions in support of sound, sustainable public health and development initiatives grounded in a shared vision of human rights and social justice. The Center focuses on addressing social-systemic factors that leave those who are most marginalized in our societies bearing the ill effects of health disparities. With this focus, the Blount Center works both in the United States and internationally to encourage gender equity, LGBT civil rights, racial and ethnic equality, and economic opportunity. The Center works collaboratively with other Emory programs and enjoys a strong, ongoing partnership with the Interfaith Health Program. For further information about the Joseph W. Blount Center for Health and Human Rights go to <http://blountcenter.org>

### **Office of Applied Public Health**

The goal of the Office of Applied Public Health is to improve the practice and performance of preventive health systems at the community level through the transfer and translation of theory to the practice setting. The study of preventive health systems requires integration of traditional and nontraditional public health disciplines as well as the development of multi-sector partnerships, especially the collaboration of academic institutions with public agencies and community constituencies. Faculty and students explore the key forces and future trends affecting the design of preventive health systems and the future of public health, prevention systems within the broader health system context through preventive health systems research, the core functions required to support population-based health promotion and disease prevention interventions and the linkages and relationships between the required components of the preventive health system and the competencies required to enhance population-based health goals. The center director is Kathleen Miner, PhD, MPH, Associate Dean for Applied Public Health.

### **Region IV Public Health Training Center**

Funded by the Health Resources and Services Administration (HRSA), the Region IV Public Health Training Center (R-IV PHTC) is comprised of a Central Office located at RSPH and six partner institutions, known as Local Performance Sites (LPSs). The

mission of the R-IV PHTC is to strengthen competence of the current and future public health workforce in the eight HHS Region IV states (GA, FL, AL, MS, TN, KY, NC, SC), develop a learning community within the Central Office and the Local Performance Sites, expose public health students to the value of working in underserved areas, advocate for public health systems and policies, and contribute to the work of the national Public Health Training Center program. The priority populations for the R-IV PHTC services are public health and other health professionals in governmental organizations that serve medically underserved populations. In Region IV, the Central Office and the six LPSs assess the training needs of the public health workforce, identify training priorities, develop and implement workforce trainings, and evaluate the impact of their collaborative efforts. Additionally, the R-IV PHTC develops and implements faculty and student collaborative projects and student placements.

### Faculty Affiliated with the Office of Applied Public Health

**Grant Baldwin**, Affiliated Professor. BA, University of Michigan, 1994; MPH, Emory University, 1996; PhD, University of Michigan, 2003.

**Paula Braun**, Affiliated Instructor. BA, University of Toledo, 2003; MS, North Carolina State University, 2005.

**Nicole Buchanan**, Affiliated Instructor. BA, University of Florida, 1994; MA, University of Phoenix, 2005.

**Lisa Carlson**, Affiliated Instructor. BA, Yale University, 1992; MPH, Emory University, 1993.

**Kelley Chester**, Affiliated Professor. BS, Georgia Southern University, 1993; MPH, 2007; DrPH, 2010.

**Gregory Dent**, Affiliated Instructor. BBA, Georgia College and State University, 1989; MS, Walden University, 2013.

**Rebecca Filipowicz**, Affiliated Instructor. BS, Angelo State University, 1994; MS, University of North Texas, 1996; MPH, Emory University, 2001.

**Brenda Fitzgerald**, Affiliated Professor. BS, Georgia State University, 1972; MD, Emory University, 1977.

**Frederic Grant**, Affiliated Professor. BS, Ohio State University, 1975; MBA, Georgia State University, 1980; PhD, Capella University, 2006; MPH, Emory University, 2012.

**Johanna Hinman**, Affiliated Instructor. BA, Carleton College, 1992; MPH, Emory University, 1998.

**John D. Kennedy**, Affiliated Professor. BS, Duke University, 1973; MD, 1977; MBA, Kennesaw State University, 1997.

**Maureen Y. Lichtveld**, Affiliated Professor. MPH, Johns Hopkins University, 1986; MD, University of Suriname, Faculty of Medicine, Paramaribo, Suriname; University of Leyden, the Netherlands, 1981.

**Jon M. Lipsky**, Affiliated Instructor. BA, University of Wisconsin, 1985; MBA, 1990.

**Tonya Martin**, Affiliated Instructor. BS, Bowling Green State University, 1979; MPH, Emory University, 1999.

**John P. May**, Affiliated Professor. BS, University of Notre Dame, 1984; MD, Loyola University, 1988.

**Sunanda McGarvey**, Affiliated Instructor. BS, Old Dominion University.

**Rita K. Noonan**, Affiliated Professor. BA, University of Connecticut, 1986; MA, 1989; PhD,

Indiana University, 1998.

**Jean O'Connor**, Affiliated Professor. BS, Emory University, 1998; MPH, 2001; JD, 2001; DrPH, University of North Carolina, 2009.

**Marc Overcash**, Affiliated Instructor. BA, Davidson College, 1992.

**Jamie Pina**, Affiliated Professor. BA, University of Massachusetts, 2001; MSPH, Emory University, 2006; PhD, University of Washington, 2011.

**Daniel C. Rutz**, Affiliated Instructor. BS, University of Wisconsin, 1971; MPH, Emory University, 2001.

**Thomas G. Savel**, Affiliated Professor. BA, Wesleyan University, 1991; MD, Mount Sinai School of Medicine, 1995.

**Jeffery P. Sellers**, Affiliated Professor. BS, Auburn University, 1977; PhD, Duke University, 1981.

**Florence K. L. Tangka**, Affiliated Professor. BS, University of Reading (England), 1989; MS, Rutgers University, 1994; PhD, University of Florida, 2001.

**Daniel VanderEnde**, Affiliated Professor. BS, Wheaton College, 1993; MD, Case Western Reserve University, 1997.

**David N. Westfall**, Affiliated Professor. BA, University of Florida, 1968; MD, 1972, MPH, 2009.

### Southeastern Institute for Training and Evaluation

The Southeastern Institute for Training and Evaluation (SITE) serves as a resource for public health agencies and programs in the state and region. It provides educational outreach, needs assessment, curriculum development, and evaluation expertise to public health communities and the RSPH. Students and faculty often join SITE staff in various projects. SITE enables students to learn health promotion and education through public health practice in community settings. The Director is Dabney P. Evans, PhD, Assistant Professor in Behavioral Sciences and Health Education and the Hubert Department of Global Health.

### Southeastern Center for Air Pollution and Epidemiology

SCAPE is a multi-institutional, multidisciplinary center addressing critical issues related to the health impact of ambient air pollution. The center focuses on characterizing ambient air pollution mixtures and elucidating their role in health risks. In collaboration with the Georgia Institute of Technology, the center was established with funding from the Environmental Protection Agency, with Paige Tolbert, PhD, serving as the Emory director. For additional information, go to: [www.scape.gatech.edu](http://www.scape.gatech.edu).

### Women's and Children's Center

Directed by Carol J.R. Hogue, PhD, Jules and Uldeen Terry Professor of Maternal and Child Health and Professor of Epidemiology, the mission of the Women's and Children's Center (WCC) is to promote the health and well-being of women and children through instruction, research, and practice. The WCC serves as a focal point at the RSPH for training and research in maternal and child health and women's health. Since its founding in 1992, the WCC has collaborated with the departments of epidemiology, health policy and management, behavioral sciences and health education, and global health.

Research conducted by core faculty of the WCC is designed to develop the knowledge base for better understanding the particular health risks experienced by vulnerable populations of women and children, and ways to provide health promotion and disease prevention care for these populations. This research requires collaboration of a multidisciplinary team of epidemiologists, social scientists, health services researchers, and clinicians. Collaborators include public and private health providers in several states. RSPH students gain experience through participating as research assistants in projects like these, funded primarily by federal agencies and nonprofit foundations. With funding from federal grants and health foundations, the WCC writes state-of-the-art training packages, manuals, and other training materials to disseminate both research findings and new methodologies. For further information go to [www.sph.emory.edu/wcc](http://www.sph.emory.edu/wcc).

The Women's and Children's Center houses the Center of Excellence in MCH Education, Science, and Practice (COE). The COE is an MCH Leadership Collaborative with Emory's Rollins School of Public Health (RSPH) MCH Certificate (MCHC) Program; Morehouse School of Medicine's Satcher Health Leadership Institute (SHLI); and Georgia State University's Center for Leadership in Disabilities GaLEND Program (GaLEND). The COE annually provides education for graduate students in public health to acquire all V3.0 MCH Leadership Competencies through its MCHC Program for 20 selected MPH students at RSPH, chosen from all RSPH Departments and financially supports graduate students in MCH from underrepresented minorities (URM) through fellowships for selected MPH students and PhD students. It also offers pilot study grants for MCH junior and midlevel RSPH faculty towards developing larger, funded research projects, travel awards for MCH graduate students and faculty in the MCH Leadership Collaborative for presenting research findings and for career

development at national and regional professional meetings, and assistance for graduate students from URM to obtain minority research supplements.

### Faculty Affiliated with the Women's and Children's Center

- E. Kathleen Adams**, Professor. BS, Florida State University, 1970; MS, 1972; PhD, University of Colorado, 1979. Department of Health Policy and Management.
- Susan A. Ashford**, RN, Grady Memorial Hospital, 1971; BSN, Medical College of Georgia, 1977; MN, Emory University, 1979; PhD, Emory University, 2005. Emory University School of Nursing.
- Hani Atrash**, Adjunct Associate Professor. BS, American University of Beirut, 1972; MD, 1976; MPH, Emory University, 1985. Centers for Disease Control and Prevention.
- Sarah C. Blake**, Associate. BA, University of South Carolina, 1992; MA, The George Washington University, 1996; PhD, 2007. Department of Health Policy and Management.
- John T. Carter**, Research Assistant Professor. BA, University of Virginia, 1963; PhD, Rice University, 1967; MPH, Emory University, 1991. Department of Epidemiology.
- Carolyn Drews-Botsch**, Associate Professor. BA, University of California, San Diego, 1981; MPH, University of California, Los Angeles, 1983; PhD, 1988. Department of Epidemiology.
- Karen Glanz**, Professor. BA, University of Michigan, Ann Arbor, 1974; MPH, 1977; PhD, 1979. University of Pennsylvania.
- Diane C. Green**, Adjunct Assistant Professor. BS, University of Georgia, 1974; MPH, Emory University, 1991; PhD, 1994. Division of Reproductive Health, Centers of Disease Control and Prevention.
- Vicki S. Hertzberg**, Associate Professor. BS, Miami University, 1976; PhD, University of Washington, Seattle, 1980; Department of Biostatistics.
- Carol J. R. Hogue**, Director and Jules and Deen Terry Professor of Maternal and Child Health. AB, William Jewell College, 1966; MPH, University of North Carolina, 1971; PhD, 1973. Department of Epidemiology.
- L. Lynn Hogue**, Adjunct Professor. AB, William Jewell College, 1966; PhD, University of Tennessee, 1971; JD, Duke University, 1974. College of Law, Georgia State University.
- Chinano Kennedy**, Adjunct Assistant Professor. BA, Colgate University, 1991; MPH, Yale University School of Medicine, 1993; PhD, Columbia University, 2000. Georgia Department of Human Resources, Division of Public Health.
- Michele Marcus**, Professor. BS, Brooklyn College of the City University of New York, 1974; MPH, Columbia University, 1981; PhD, 1986; Department of Epidemiology.
- Godfrey P. Oakley Jr.**, Research Professor. MSPM, University of Washington, 1972; MD, Bowman Gray School of Medicine, 1965; Department of Epidemiology.
- Bradley Pearce**, Research Associate Professor. BS, Florida State University, 1985; PhD, University of Miami, 1990. Department of Epidemiology.
- Usha Ramakrishnan**, Associate Professor. BS, University of Madras, 1983; MS, University of Madras, 1985; PhD, Cornell University 1993. Department of Global Health.
- Roger W. Rochat**, Research Professor. BA, University of Rochester, 1962; MD, University of Washington, 1966; Certificate in Demography, Office of Population Research, Princeton, 1972; Department of Global Health.
- Stephanie Sherman**, Professor; BS, North Carolina State University, 1975; PhD, Indiana University, 1981; Emory University, Department of Human Genetics.
- Chanley M. Small**, Research Assistant Professor. BA, Brown University, 1991; MS, Stanford University, 1995; PhD, Emory University, 2005; Department of Epidemiology.

**Iris E. Smith**, Clinical Associate Professor. BA, Fordham University, 1971; MPH, Emory University, 1979; PhD, Community Psychology, Georgia State University, 2000. Department of Behavioral Sciences and Health Education.

**Claire Sterk**, Candler Professor; PhD, University of Utrecht, 1983; PhD, Erasmus University, Rotterdam/City University of New York, 1990. Department of Behavioral Sciences and Health Education.

**Nancy J. Thompson**, Associate Professor. BA, Emory University, 1971; MPH, Emory University, 1977; PhD, Georgia State University, 1989. Department of Behavioral Sciences and Health Education.

**Kathleen E. Toomey**, Adjunct Professor of Epidemiology. AB, Smith College, 1973; MPH, Harvard University, 1979; MD, 1979. Centers for Disease Control and Prevention



## Additional Resources

### The US Centers for Disease Control and Prevention

The US Centers for Disease Control and Prevention (CDC) is the federal government's premier agency devoted to disease prevention and control, with emphasis in epidemiology, environmental health, health safety, and health education. CDC headquarters is located less than one block from RSPH. More than one hundred CDC scientists hold adjunct faculty appointments in the RSPH. Many students work at CDC in paid internships through various ongoing programs, find opportunities for thesis research with CDC scientists, and use the libraries and data sets resulting from CDC's national surveys. Over 700 RSPH alumni currently work at CDC.

### American Cancer Society

The American Cancer Society (ACS) is the world's largest volunteer disease prevention agency dedicated specifically to cancer prevention and health promotion. It is headquartered in downtown Atlanta. The ACS hosts research units in epidemiology and behavioral sciences. Several collaborative research projects with a shared common interest in early cancer detection and prevention make the ACS a valuable resource to the RSPH.

### The Carter Center

The Carter Center addresses national and international issues of public policy, and provides leadership in global health programs such as disease eradication, child survival, and world hunger. In doing so, it draws on the resources of virtually the entire Emory community, including former President Jimmy Carter (now a University distinguished professor) and former CDC Director William Foege (a professor in the RSPH's Department of Global Health), and brings to campus a wide range of international scholars, government leaders, business executives, and other professionals. The Carter Center Mental Health Program collaborates with the school in offering a Certificate in Mental Health directed by Benjamin Druss, who is the Rosalynn Carter Chair in Mental Health. The associated Jimmy Carter Library, with more than 27 million documents, photographs, films, and mementos of the Carter presidency, serves scholarly researchers and, through its museum, the general public.

### CARE USA

Headquartered in Atlanta, CARE's mission is to serve individuals and families in the poorest communities in the world. Drawing from internationally diverse employees, volunteers, resources, and experience, CARE promotes innovative solutions and advocates global responsibility. Worldwide collaborations with a range of RSPH faculty make CARE an important resource partner for students as well.

### Georgia Department of Human Resources

The Georgia Department of Human Resources is nationally recognized for innovative and successful health programs. It offers the possibility of on-site experience for students in health promotion and disease prevention.

**Task Force for Global Health**

Since its formation in 1984, the Task Force for Global Health has worked to improve the lives of children and families around the world through public health programs.

The Task Force was formed after a meeting of thirty-four world health leaders in Ballagio, Italy, called together by The Rockefeller Foundation at the request of Jonas Salk and Robert McNamara. Five of the participating organizations—The World Health Organization, the United Nations Children’s Fund (UNICEF), The World Bank, the United Nations Development Programme, and The Rockefeller Foundation—asked the Task Force to serve as the executive secretariat of this group. The United Nations Population Fund joined as the sixth official sponsor in 1995.

The Task Force acted as a vehicle to bring the sponsors together on a regular basis to work collaboratively toward raising immunization rates of the world’s children from 20 percent to 80 percent by 1990. James Grant, former executive director of UNICEF, described this effort at its peak as the single largest peacetime program in the history of the world. The goal was reached and led to the World Summit for Children.

The Task Force also operates the Mectizan® Donation Program and the Malarone Donation Program. The Mectizan Donation Program, a joint public-private partnership with the pharmaceutical company Merck and Company, facilitates distribution of the drug Mectizan to treat people for river blindness (onchocerciasis) in Africa and Latin America. The Malarone Donation Program, a partnership with GlaxoSmithKline, is a targeted donation program that provides a new anti-malarial drug to people in endemic regions who have malaria resistance to other medications.

The Collaborative Center employs fifty staff members, including several adjunct faculty members, and is led by Executive Director Mark Rosenberg, adjunct professor of behavioral sciences and health education and global health.

**Health Services****Student Health Service**

The Student Health Service, a section of The Emory Clinic, provides both outpatient and inpatient care to students. Regularly enrolled, fully registered Emory students with ID. Cards validated for the current term are eligible for health care at the Student Health Service.

**Outpatient Clinic**

The University’s Outpatient Clinic provides a variety of medical services, including care for acute illnesses and injuries, and follow-up of short-term continuing health problems. Students may be seen on a walk-in basis or by appointment. In addition, appointments may be scheduled for specialty services, including gynecology, family planning, immunizations, allergy injections, and psychiatric or mental health services.

**Inpatient Department**

Hospitalization for students requiring inpatient care is provided by the Inpatient Department. Students with critical illnesses requiring full hospital services may be admitted to Emory University Hospital.

**Mental Health Services**

Students may see the consultant psychiatrist on self-referral or referral from the Student Health Service. The psychiatrist will provide evaluation, counseling, and limited treatments for students with problems related to their emotional well-being. If further treatment is indicated, the psychiatrist will refer the student appropriately.

**Medical Emergencies**

Emergency medical services are available to students on a twenty-four-hour basis through the Student Health Service. Students with urgent medical problems occurring after hours may be seen in the Inpatient Department by a registered nurse. An on-call physician is available for consultation whenever necessary. In the event of a serious or life-threatening emergency requiring immediate treatment and emergency room service, the student should go directly to a hospital that has an emergency department or call DeKalb County Emergency Service at 911 (dial direct).

**Faculty-Staff Clinic**

Students’ dependents are not eligible for care through the Student Health Service but may be seen by appointment on a fee-for-service basis at the University Health Service’s Faculty-Staff Clinic. Children under twelve are not eligible for care at the University Health Service. Certain services that are not provided by the Student Health Service, such as complete physical examinations, may be obtained in the Faculty-Staff Clinic on a fee-for-service basis.

**Health Insurance**

Effective fall semester 2005, all new and continuing full-time RSPH students (enrolled in 9 or more credit hours) will be required to have health insurance. Under this requirement, students must either purchase the Emory University Student Health Insurance Plan (offered by Aetna/The Chickerling Group) or provide documentation of enrollment in a comparable United States domiciled health insurance plan. For more information, visit the website [www.emory.edu/UHS](http://www.emory.edu/UHS).

**Libraries**

All five campus libraries are available for use by public health students. The University library system comprises more than 2.7 million volumes, 4 million microforms, 14,000 linear feet of manuscripts, and a growing inventory of electronic resources. The libraries maintain 39,000 subscriptions to serials and periodicals. Students also have access to the library of the US Centers for Disease Control and Prevention.

**Health Sciences Center Library**

The Health Sciences Center Library is located at 1462 Clifton Road, next to the RSPH. Clinical branch libraries are maintained in Emory University Hospital and in the Glenn Memorial Building opposite Grady Memorial Hospital. A specialized research branch library is located at the Yerkes National Primate Research Center. The Health Sciences Center Library serves public health students, faculty, and other eligible users with a collection of more than 220,000 volumes, 2,400 current periodicals, a computer laboratory, and audiovisual materials and facilities. The library is open seven days a week with a schedule of 105 hours per week. Reference help is available daily. In addition to traditional reference services, the library

conducts information retrieval seminars and teaches library users to perform their own online literature searches. Databases included MEDLINE, Psycinfo, and others such as CD+ full text file. The library participates in the National Network of Libraries of Medicine and obtains loans of books and photocopies of articles from health science libraries across the country.

#### **Robert W. Woodruff Library for Advanced Studies**

The Woodruff Library provides excellent facilities and services for study and research, with accommodations for assigned graduate student carrels and faculty studies. The Special Collections Department houses rare books, University archives, manuscripts, and notable collections. Reference staff members cooperate with faculty to provide bibliographical assistance to individuals and groups in connection with specific courses, subjects, or research projects. Reference services include computerized database searching.

#### **University Student Counseling Service**

The Emory University Student Counseling Service provides a broad range of services for students and staff of the University. These services include educational and vocational counseling, individual and group counseling for personal problems, self-help groups in areas such as study and social skills, and consultation concerning various agencies of the University community. These services are provided free of charge to students and at a reduced rate to staff. The center is located at 1462 Clifton Road, Suite 235.

#### **Campus Ministry**

Campus Ministry at Emory encompasses a rich variety of programs and activities coordinated by the Office of the University Chaplain. Among the religious staff members assigned to work at Emory are representatives of the United Methodist, Episcopal, Presbyterian, Jewish, Roman Catholic, Baptist, and Lutheran traditions. Communities of the Greek Orthodox, Muslim, and Ba'hai traditions also offer regular study and worship opportunities. In addition to programs designed for these particular groups, there are several organizations that are ecumenical or interfaith in character. University Worship is an ecumenical service held in Cannon Chapel each Sunday morning, featuring a variety of clergy and offering liturgies that incorporate differing musical styles along with dance and the visual arts. Roman Catholic, Jewish, and Episcopal services also are held weekly and on the various holy days.



Atlanta is a city with a global health focus because of the proximity of some of the world's most prominent health organizations, including the U.S. Centers for Disease Control and Prevention, The Carter Center, the international headquarters of CARE, the national headquarters of the American Cancer Society, and the patient care, teaching, and health-related research programs of Emory University's Robert W. Woodruff Health Sciences Center.

As a thriving cultural, educational, and business center, Atlanta is consistently ranked as one of the nation's most livable cities. With a metropolitan-area population of nearly five million, Atlanta is home to offices of more than 5,000 of the nation's leading businesses. Atlanta is ranked fifth in the United States in the number of Fortune 500 headquarters located here.

Host of the 1996 Summer Olympics, Atlanta's reputation as an international city continues to grow. It has flourishing ethnic communities including African, Asian, European, Latin American, and Middle Eastern residents, as well as religious and cultural organizations ranging from the Alliance Française to a Hindu temple. A verdant and pleasant city, Atlanta possesses the vigor and open space that accommodates entrepreneurs and established corporations, opera companies and rock concerts, first-run movies and film classics. Thriving theater companies offer a variety of productions. Both the traditional and the trendy find a home here.

Atlanta is large enough to have a well-traveled rapid rail system, yet small enough to retain older, well-kept neighborhoods within minutes of the downtown skyline. Atlanta is a city where the history of the past and the technology of the future blend to create a vital and growing global center of excellence.

The largest city in the Southeast, Atlanta is a major U.S. government center: site of the southeastern regional offices of the Department of Health and Human Services, the Environmental Protection Agency, the Department of the Interior, the Department of Labor, and numerous others. The Public Health Service's U.S. Centers for Disease Control and Prevention and the Agency for Toxic Substances and Disease Registry are headquartered in Atlanta. As the state capital, Atlanta houses state government services as well.

And there's more: the High Museum; the Atlanta Symphony Orchestra; the Atlanta Ballet; the Georgia Aquarium; professional sports teams (the Braves, the Hawks, the Thrashers, the Falcons); restaurants; rock, jazz, and blues clubs; frequent concerts; and celebrated annual outdoor events, such as the Piedmont Arts Festival, the Atlanta Dogwood Festival, the Atlanta Jazz Festival, and the Peachtree Road Race. Farther afield, there's sailing, waterskiing, fishing, and camping at nearby Lake Lanier. For weekend trips (a half-day's drive north or south), there's backpacking on the Appalachian Trail, snow skiing in the Carolina mountains, or sunning on the beaches of the Atlantic Ocean or the Gulf of Mexico.

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*Dean*

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*Executive Associate Dean for Academic Affairs*

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*Associate Dean for Development and External  
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*Associate Dean for Applied Public Health*

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*Director of Information Services*

**Office of Admission and  
Student Services**

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*Director of Admissions, Recruitment & Student Life*

Angel Hurston

*Associate Director of Admission*

Robie Freeman Michaux

*Director of Enrollment Services/Registrar*

Claudia Paez- Ellett

*Senior Director of Career Services*

**Fall Term 2017**

August 7-18	Preterm course work
August 23	Classes Begin
August 23-30	Schedule Change Period
September 4	Labor Day (No classes)
September 8	Deadline to submit degree applications for fall graduation
October 9-10	Fall Break
October 23	Preregistration for spring 2018 semester
November 23-24	Thanksgiving Recess
December 5	Classes End December
December 6-16	Exam Period December
December 16	End of Term

**Spring Term 2018**

January 2-12	Preterm course work
January 15	Martin Luther King Jr. Day
January 16	Classes Begin
January 16-23	Schedule Change Period
February 9	Deadline to submit degree application for spring graduation
February 9	Summer Pre-Registration Begins
March 12-16	Spring Break
March 26	Preregistration for fall 2018 semester
April 30	Classes End
May 1-11	Exam Period
May 14	End of
term/commencement	

**Summer Term 2018**

May 21	Regular Session Classes Begin
May 25	Schedule Change Period ends
May 28	Memorial Day (No classes)
July 4	Independence Day (No classes)
July 6	Deadline to submit degree application for summer graduation
August 8	Classes End
August 9-10	Exam Period
August 10	End of Term

**Rollins School of Public Health**

Admission	404.727.3956
Center for Injury Control	404.251.8831
Center for Public Health Practice	404.727.7835
Continuing Education	404.727.6000
Development and External Relations	404.727.3739
Department of Behavioral Sciences and Health Education	404.727.9868
Department of Biostatistics	404.727.7697
Department of Environmental Health	404.727.3697
Department of Epidemiology	404.727.8710
Department of Health Policy and Management	404.727.3211
Hubert Department of Global Health	404.727.8804
Student Services	404.772.3956
Women's and Children's Center	404.727.8095

**Emory University**

Student Financial Services	404.727.6089
Police Department	404.727.6115
Graduate and Family Housing	404.727.8830
Laney Graduate School	404.727.6028
University Financial Aid	404.727.6039
University Registrar	404.727.6042
Student Health Service	404.727.7551