



***Department of
Epidemiology and Biostatistics***

2025-2026

**Epidemiology and
Maternal and Child Health Certificate
Graduate Student Handbook**



***Arnold School of Public Health
University of South Carolina***



UNIVERSITY OF
South Carolina

Department of Epidemiology and Biostatistics
Arnold School of Public Health

Welcome from the Chair

Dear Incoming Students,

Welcome to the Department of Epidemiology and Biostatistics at the University of South Carolina's Arnold School of Public Health! We are so pleased that you have selected us as you embark upon this new and exciting next stage of your professional journey. My greatest hope is that we can provide you not only with an exceptionally rewarding educational experience that helps you to fulfill your career aspirations, but that your time in the department proves to be enriching and beneficial on both a personal and professional level.

The department's long-term success is rooted in a deep, abiding commitment to advance the public's health through top-tier research and by training the next generation of epidemiologists and biostatisticians. We seek to offer rigorous training in a collegial, supportive environment with the intention that the skills you acquire forge you into a graduate poised to be a public health leader. Our goal is to train the next generation of epidemiologists and biostatisticians to tackle not only the public health challenges of the present, but also to have the skills to address the presently unforeseen public health threats that will emerge in the future. The COVID-19 pandemic provided an excellent recent example of the need to be prepared for the unexpected. We are confident the skills you acquire during your training will empower you to rise up to meet the public health challenges that you will face during your career. Our training program includes learning that takes place in the classroom, faculty mentorship, practicum in teaching and consulting, and rich opportunities to take part in leading edge research. Our multi-faceted educational program will hopefully be personally transformative for you. After 50 years of dedication to high quality teaching and research, our department has a proud tradition of excellence. You are now part of this tradition.

As you experience the department, please let us know how we are doing. In our quest for excellence, we are constantly striving to improve. Please let us know what we are doing well, but also where you feel improvements are warranted and how we can better assist you to achieve your career goals.

Welcome to the Department, and best wishes for a smooth transition, much success in your degree program, and a fulfilling career.

Sincerely,

A handwritten signature in blue ink that reads "Anthony J. Alberg".

Anthony Alberg, Ph.D., M.P.H.
Professor and Chair

TABLE OF CONTENTS

<u>OVERVIEW</u>	5
<u>Arnold School of Public Health Mission, Vision, and Values</u>	5
<u>Centers and Programs</u>	7
<u>THE DEPARTMENT OF EPIDEMIOLOGY AND BIostatISTICS</u>	11
<u>Degree Programs Offered</u>	13
<u>RESOURCES</u>	15
<u>ACADEMIC INTEGRITY</u>	20
<u>COMMUNICATION</u>	23
<u>Listserv, Departmental Seminar</u>	23
<u>Graduate Directors and Staff</u>	24
<u>FACULTY</u>	26
<u>MASTER'S DEGREE PROGRAMS</u>	33
<u>M.P.H. in Epidemiology</u>	33
<u>Important Dates and Forms</u>	33
<u>Advisement and Progression Information</u>	35
<u>Degree Requirements and Course Sequencing</u>	38
<u>Goals and Learning Outcomes</u>	43
<u>Epidemiology Practice Experience (EPID 798) & FAQ's</u>	46
<u>Integrated Learning Experience (EPID 796) & FAQ's</u>	54
<u>M.S. in Epidemiology</u>	58
<u>Important Dates and Forms</u>	58
<u>Advisement and Progression Information</u>	60
<u>Goals and Learning Outcomes</u>	64
<u>Degree Requirements and Course Sequencing</u>	65
<u>Thesis & FAQ's</u>	67
<u>CERTIFICATE IN GRADUATE STUDIES PROGRAMS</u>	76
<u>Maternal and Child Health</u>	76
<u>DOCTORAL PROGRAM</u>	79
<u>Competencies and Learning Outcomes</u>	79
<u>Doctoral Checklist</u>	80
<u>Important Dates and Forms</u>	81
<u>Degree Requirements</u>	82
<u>Advisement and Progression</u>	84

<u>Program of Study</u>	84
<u>Content and Transfer Credit</u>	85
<u>Doctoral Student Annual Report</u>	86
<u>Qualifying Exam</u>	87
<u>Doctoral Candidacy</u>	89
<u>Residency</u>	89
<u>Teaching and Consulting Practica</u>	90
<u>Dissertation Requirements</u>	93
<u>Doctoral Committees</u>	94
<u>Comprehensive Examination</u>	95
<u>Certificate in Graduate Studies Programs</u>	
<u>Biostatistics-Post-Baccalaureate Certificate</u>	100
<u>FINANCIAL ASSISTANCE & ASSISTANTSHIPS</u>	101
<u>Biomedical-Behavioral Training Program</u>	101
<u>Assistantships</u>	101
<u>Travel Grants</u>	105
<u>DESCRIPTION OF COURSES</u>	106
<u>ASPH Graduate Courses</u>	106
<u>EPID Undergraduate Courses</u>	107
<u>EPID Graduate Courses</u>	108
<u>BIOS Graduate Courses</u>	113
<u>FORMS</u>	118

OVERVIEW

The University of South Carolina Columbia (USC)

Among America's oldest and most comprehensive public universities, USC is the major research institution of the University of South Carolina system and its largest campus, enrolling more than 35,000 students, with over 8,000 of these in graduate and professional programs. At the heart of its mission lies the University's responsibility to the state and society to promote the dissemination of knowledge, cultural enrichment, and an enhanced quality of life.

The University serves a diverse student population with widely varying backgrounds, and career goals. USC provides a comprehensive array of educational programs, offering more than 350 degrees at the bachelor's, master's, doctoral, and professional program levels. In addition to public health, via both traditional classroom instruction and distributed learning USC also offers degree programs in arts and sciences; education; engineering and computing; hospitality, retail, and sport management; mass communications and information studies; music; and social work; and in professional programs such as business, law, medicine, nursing, and pharmacy.

Recognized by the Carnegie Foundation as a top research and service institution, USC has a profound impact on the state of South Carolina and beyond. As the flagship institution of the state system, USC Columbia leads the way in providing all students with the highest-quality education, including the knowledge, skills, and values necessary for success and responsible citizenship in a complex and changing world through engagement in nationally and internationally ranked research, community outreach, and artistic creation.

The Arnold School of Public Health

The Arnold School of Public Health (ASPH) was established in 1975 as the nation's 19th accredited school of public health and remains the only accredited school of public health in South Carolina. ASPH has a rapidly growing undergraduate program, diverse and vibrant graduate programs, and continues to experience record growth in faculty research funding and impact. ASPH has a broad range of academic programs, faculty with research expertise that is recognized nationally and internationally, and impactful centers and community programs. ASPH is improving public health by preparing future scholars and public health practitioners and by conducting, translating, and disseminating groundbreaking research. ASPH [Departments](#) are home to talented faculty, staff, and students, and difference-making research and community engagement activities.

Norman J. and Gerry Sue Arnold

In 2000, Columbia business leader Norman J. Arnold and his wife, Gerry Sue, generously created an endowment to support the school's teaching, research, and educational efforts. The Arnolds' gift, which was inspired by Norman's successful battle against pancreatic cancer, was a transformative event. It has funded research and outreach that

has helped South Carolinians become healthier and experience higher quality of life. Subsequently renamed the Arnold School of Public Health (ASPH) to honor the Arnolds, ASPH became the third named school of public health in the U.S.

The Arnolds' dedication to improving health for all populations is evident from their numerous generous gifts to ASPH. The Norman J. Arnold Endowment, established with their initial gift, supports the Arnold Doctoral Fellowship program to recruit and support top doctoral students. In 2015, the Arnolds pledged an additional \$7 million to create the **Gerry Sue and Norman J. Arnold Institute on Aging** to support a broad range of activities, such as childhood obesity prevention, nutrition and food safety, stroke recovery, and dementia, that affect our most vulnerable populations—children and the elderly.

Guiding Statements

ASPH is the primary public health research and education resource in South Carolina with a 50-year history of impact. Our work is guided by the following vision, mission, and goals.

Vision

The Arnold School of Public Health will improve population health and well-being by fostering innovative education and research that promotes health and healthy environments and will use that knowledge to prevent and effectively respond to disease, disability, and environmental degradation in diverse communities.

Mission

The ASPH will improve population health and well-being by fostering innovative education, research and practice that promotes health and healthy environments. The ASPH will use that knowledge and experience to promote prevention and effective response to disease, disability, and environmental degradation in all communities.

Goals

Goal 1: Provide undergraduate and graduate educational programs of excellence

Goal 2: Promote high quality, impactful and ethical research

Goal 3: Recruit and retain highly qualified faculty and staff to meet our mission

Goal 4: Support community engagement activities that promote and improve the public's health

Goal 5: Meet the fiscal and physical resource needs of the school

Opposing Racism and Injustice

ASPH condemns racism and injustice in all its forms and actions. Racism and social injustice are strong negative determinants of good health - both physically and mentally - and are antithetical to everything we stand for in academic public health.

Centers and Programs

Our service and outreach activities impact various populations across South Carolina and beyond. ASPH houses and partners with a wide range of centers, institutes and other programs that conduct original research, engage in translation and dissemination, and connect directly with the public through clinical and other interactive services. These groups reflect our strengths as a School of Public Health and enable us to make a lasting impact on the populations whose lives we strive to improve.

[Big Data Health Science Center \(BDHSC\)](#)

USC's BDHSC is an interdisciplinary enterprise that conducts innovative research, offers academic training, and provides service to the community and industry.

[Cancer Prevention and Control Program \(CPCP\)](#)

CPCP conducts cancer research to reduce the burden of cancer by eliminating cancer disparities and disseminating effective methods to prevent cancer.

[Carolina Consortium on Health, Inequalities, and Populations \(CHIP\)](#)

CHIP unites interdisciplinary scholars to conduct research to understand and address the social processes that influence population dynamics and health inequalities.

[Center for Effectiveness Research in Orthopedics \(CERortho\)](#)

CERortho's mission is to conduct Comparative Effectiveness Research to generate evidence that leads to value-based, patient-centered care for orthopedic patients.

[Center for Environmental Nanoscience & Risk \(CENR\)](#)

CENR is a SmartState™ Center that investigates nanoparticles and their effects on environmental and human health, and works to develop low risk nanotechnologies.

[Center for the Study of Aphasia Recovery \(C-STAR\)](#)

C-STAR does research on stroke recovery and works to improve the lives and communication skills of patients after they suffer strokes.

[Core for Applied Research & Evaluation \(CARE\)](#)

CARE has methodological expertise in program evaluation, including data collection, management, and analyses.

[Children's Physical Activity Research Group \(CPARG\)](#)

CPARG promotes cross-disciplinary research to advance understanding of physical activity and its promotion in youth and translate evidence into effective health policies.

Clinical Exercise Research Center (CERC)

CERC measures metabolic and cardiorespiratory responses to exercise in humans, with an automated system to measure metabolism, a DEXA machine for body composition and bone mineral analysis, and phlebotomy services and assay analyses.

Consortium for Latino Health Studies (CLHS)

CLHS promotes multidisciplinary research to improve the health of Latinos and the translation of research findings into practice.

Disability Research and Dissemination Center (DRDC)

DRDC is a partnership to conduct research, train professionals, and disseminate knowledge related to birth defects, disabilities, and human development.

Global Health Initiative

ASPH seeks to respond to global health challenges by promoting collaborative research.

Health Disparities and Health Equity Research Consortium (HDHERC)

HDHERC's goal is to engage a community of scholars who conduct, translate, and disseminate health disparities and health equity research that improves population health.

Institute for Infectious Disease Translational Research (IIDTR)

IIDTR includes cross-disciplinary research with the goal of advancing the prevention and control of emerging and re-emerging infectious disease.

Oceans and Human Health Center for Climate Change Interactions (OHHC2I)

OHHC2I's goal is to better understand the adverse health effects of climate change by studying *Vibrio cholerae* infections and production of toxins from freshwater cyanobacteria.

Office for the Study of Aging (OSA)

OSA promotes healthy aging through program development, evaluation, training and research. OSA seeks to improve long-term care service delivery for South Carolina's older adults by providing information to policy makers, health care professionals, and the public.

PASOs

PASOs is a community-based organization to help the Latino community and service providers work together for healthy families by offering community health programs such educational and outreach activities and partnerships with health care providers.

Prevention Research Center (PRC)

PRC sponsors projects aimed at increasing physical activity, and promotes physical activity via interventions, training, dissemination and applied research.

Research Center for Child Well-Being (RCCWB)

RCCWB is interdisciplinary and hosts prevention researchers in public health, psychology, education, and social work.

Rural and Minority Health Research Center (RMHRC)

The RMHRC strives to improve quality of life for rural residents by investigating persistent health inequalities in rural populations.

[South Carolina Cancer Disparities Community Network-II \(SCCDCN-II\)](#)

The goal of SCCDCN-II, is to reduce cancer disparities through community-based participatory cancer education, research and training.

[South Carolina Smartstate Center for Health Care Quality \(SC HCQ\)](#)

SCHCQ's goal is to contribute to advances in healthcare and population health through rigorous research, education, community engagement, and policy advocacy.

[South Carolina Institute of Medicine and Public Health \(IMPH\)](#)

IMPH convenes diverse stakeholders around issues important to the health of South Carolinians, and provides evidence-based information relevant to policy decisions.

[Technology Center to Promote Healthy Lifestyles \(TecHealth\)](#)

TecHealth is a SmartState™ Center comprised of interdisciplinary researchers whose focus is to apply innovative technology to encourage healthy lifestyle behaviors.

[USC Speech and Hearing Research Center](#)

The Center provides a variety of diagnostic and treatment programs for people with communication disorders to improve social, educational, and vocational participation.

THE DEPARTMENT OF EPIDEMIOLOGY AND BIostatISTICS

Public Health was defined by C-EA Winslow as the science and art of preventing disease, prolonging life, and promoting physical health and efficiency through organized community efforts with the goal of enabling every person to realize their birthright of health and longevity. The disciplines of epidemiology and biostatistics are quantitative research sciences that are essential to achieving the goals of public health. Epidemiologists study the distribution and determinants of health and disease in populations. Biostatisticians develop and apply statistical theory, methods and techniques to public health research data and the planning, implementation, and evaluation of public health programs.

Achieving gains in improving the public's health depends on the ability to identify and solve community health problems. Epidemiology and biostatistics are critical disciplines for the ascertainment and characterization of public health problems and generating public health action. Both epidemiology and biostatistics are key components of the scientific core of public health and are included in the training of every public health professional.

Combining epidemiology and biostatistics in the same department creates the opportunity for tremendous synergies in education and research. At the same time, the unique features of each discipline are acknowledged in the Department's administrative structure which is comprised of two divisions, the Division of Biostatistics and the Division of Epidemiology.

Vision, Mission, and Values

Vision

The Department of Epidemiology and Biostatistics is a community of scholars characterized by an atmosphere of collaboration, collegiality, and mutual respect.

Mission

Our mission is to develop, teach, and apply innovative and efficient methods to solve contemporary public health issues.

Values

The Department of Epidemiology and Biostatistics affirms the seven Arnold School of Public Health values of Community, Diversity and Inclusion, Impact, Integrity, Learning, Social Justice, and Translation. Our additional department-specific values are:

- 1) **Innovation:** Using innovative methods, we test new theories, models and technologies to determine more efficient ways of analyzing and sharing data.
- 2) **Communication:** We endeavor to turn data into information that can be communicated to scientific and nonscientific audiences.

Goals

Education

We are committed to training the next generation of public health leaders. Doctoral and master's students in the Department of Epidemiology and Biostatistics will gain state-of-the-art knowledge and develop skills in both epidemiology and biostatistics. These concepts and skills will enable students to effectively identify, evaluate, and solve public health problems. Upon successfully completing the program, students will demonstrate:

- An understanding of the etiologic pathways contributing to disease, disability, and other health outcomes;
- An ability to apply epidemiologic and biostatistical methods to advance understanding of the determinants of disease and other health outcomes and translate this knowledge to benefit the public's health;
- An understanding of the design and conduct of research in public health; and
- Skills in data analysis and interpretation of research results in the context of promoting the public's health through disease prevention and health promotion.

Research

The research goals of the Department stress contributions to the field of public health through the development of new knowledge that advances understanding of the causes of disease, and by translating this knowledge to reduce disease and premature death. Broad objectives are targeted toward:

- Impact on public health;
- Ability to identify and respond to emerging health problems; and
- Ability to effectively engage in partnerships with public health agencies at the local, state (e.g., South Carolina Department of Health and Environmental Control), and federal levels (e.g., Centers for Disease Control and Prevention, National Institutes of Health).

Service

The service goals of the Department are to contribute to the University, the public and the health professions through the direct involvement of the faculty, staff, and students in a range of activities. Service goals are geared:

- To the University through participation in governance and contributions to institutional development;
- To the health professions through contributions to the advancement of science through peer-reviewed publications, editorial and peer review activities, participation in professional and scientific forums and organizations, and assistance to health-related program personnel and policymakers in their efforts to keep abreast of new knowledge; and
- To the public through continuing education, demonstration projects, consulting and other advisory services, and support in the diffusion and dissemination of new knowledge and applied technology to advance the public's health.

Degree Programs

The Department offers master's and doctoral degrees in both epidemiology and biostatistics.

The major in **epidemiology** is designed for students pursuing careers in the study of the distribution and determinants of diseases, disabling conditions, risk behaviors, and other health-related outcomes in human populations. The field of epidemiology involves research into factors that influence human health states or events and evaluation of prevention and treatment interventions. Epidemiologists attempt to establish the causes of health problems by describing the biological, environmental, social and behavioral factors affecting illness and premature death as well as factors that contribute to health and well-being. Descriptive and analytic techniques are used to gather information on disease occurrence, advance understanding of the complex sets of factors that contribute to the etiology of disease and translate findings into effective disease control measures. Epidemiologists also engage in research to evaluate the delivery of health services, and to measure the efficacy of treatments and intervention programs. The evidence generated from epidemiologic research is relevant to developing health promotion/disease prevention programs and formulation of health policy. To accomplish these objectives, the epidemiologist must acquire expertise in study design and exposure assessment. As a discipline committed to the health and well-being of human beings, epidemiology places an emphasis on ensuring adherence to ethical standards of practice regarding persons' participation in research as well as maintaining high standards of research integrity in implementing research studies. Epidemiologists work in leadership and collaborative roles on interdisciplinary teams, whether these teams are focused on advancing research or public health practice.

The major in **biostatistics** is designed for students pursuing careers in community health measurement, design and management of health data systems, health-related data science, and the development and application of quantitative methods to health problems. Biostatisticians apply statistical theory, methods, and techniques to the planning, development, and evaluation of health programs and problems. They collect and analyze various types of information such as demographic and vital statistics; health resources statistics; integration of individual-level, area-level, and spatial-level data; high throughput genomic, proteomic, and other biomarker data; and other biological, environmental, social and behavioral factors relevant to modern health problems. Biostatisticians design experiments and observational studies, use various computer operating systems and software packages to store and analyze information, develop methods to compare population groups, and prepare inferential and probabilistic statements based on biological, social, and environmental data. Biostatisticians have the capacity to apply advanced statistical theory to solve complex data analytic challenges in addressing important questions in public health and biomedical research. The work of biostatisticians ranges from the application and interpretation of standard analytic techniques to the development of novel methodological approaches to unique forms of data.

The **Master of Public Health (M.P.H.)** in epidemiology degree is designed for those who wish to acquire skills necessary to work as an epidemiologist in public health or other health sciences settings. The M.P.H. is offered in-person and 100% asynchronous online. The M.P.H. with a major in epidemiology provides a foundation in epidemiologic methods with a focus on applying epidemiologic skills in the setting of public health practice and other health sciences settings.

The **Master of Science (M.S.)** degree is designed for those who wish to acquire skills necessary for public health research. The M.S. with a major in epidemiology focuses on development of research skills for the study of determinants of disease and other health conditions. The M.S. with a major in biostatistics prepares researchers to apply statistical techniques to health problems.

The **Doctor of Philosophy (Ph.D.)** is an advanced graduate degree for those who intend to pursue teaching and research careers. The major objective of the Ph.D. degree in Epidemiology is to prepare an individual to pursue original epidemiologic investigation of diseases and develop novel methodological approaches. The major objective of the Ph.D. degree in Biostatistics is to prepare an individual to develop novel statistical methods and to apply biostatistical principles and methods to public health problems.

RESOURCES

Libraries

The highly ranked University Libraries foster learning and discovery by connecting people with significant collections and expert support of research. The libraries are comprised of the historic South Carolinian Library; Ernest F. Hollings Special Collections Library; Music Library; Moving Image Research Collections; and Thomas Cooper Library, a seven-level facility with 290,000 square feet of floor space that is open 24/7 to students. Scholars from around the world seek the libraries' holdings, which include comprehensive collections of F. Scott Fitzgerald, crime fiction writers Elmore Leonard and Dashiell Hammett, natural history, astronomy, news, film, and state political leaders.

The Arnold School of Public Health's liaison to the Thomas Cooper Library is Amy Edwards (amjedwar@mailbox.sc.edu).

Information Technology

The Division of Information Technology (DoIT) provides strategic leadership for information technology, instructional services, e-learning and research cyberinfrastructure at USC. For more information visit www.sc.edu/it and for technical assistance contact the Service Desk at servicedesk@sc.edu or (803) 777-1800.

The Information Technology Core provides IT support for ASPH faculty and staff. This team also oversees the ASPH's main computer lab for students, located in Discovery Room 431. The computer lab has 34 workstations and two black and white laser printers. For assistance with ASPH-specific IT issues, please submit a ticket with ASPH IT: <https://support.asph.sc.edu>.

Discovery Computer Lab hours (fall, spring & summer)

Monday-Friday: 8:00am - 10:00pm

Saturday: 10:00am - 8:00pm

Sunday: closed

Information for International Students

International Student and Scholar Support (ISSS) is your go-to resource for all things immigration related, particularly when it relates to F-1 and J-1 visas. The advisors at ISSS are your resource and guide when it comes to immigration and cultural matters so that you can achieve your educational and personal goals in the U.S. ISSS can be contacted at iss@sc.edu or by visiting their website: www.iss.sc.edu.

Carolina Card

The Carolina Card is your permanent USC ID card plus a flexible-spending declining balance card. Each time you make a purchase, the amount of the purchase is deducted from your account balance. Carolina Cash can be used for dining and non-dining purchases. For more information about obtaining and using a Carolina Card, visit their website: https://sc.edu/about/offices_and_divisions/carolinacard/.

Student Services

Academic achievement is the primary goal for every graduate student, but making it happen while maintaining life balance can be challenging. We encourage you to take advantage of the many services available to you through the [Division of Student Affairs and Academic Support](#). Below are just some of the many offices within the Division.

University Health Services

In addition to the rigors of your studies, the challenges of being in a new community can create a stressful environment that impacts your health and well-being. Multiple services are available to students, including Healthy Carolina and Student Health Services which provide on-campus access to physical and mental health care services. They are located directly behind the Russell House (1401 Devine St). For more information about University Health Services, including Counseling Services, please visit their website: https://sc.edu/about/offices_and_divisions/student_health_services/.

Career Center

The Career Center prepares students for lifelong career management by helping them discover careers, develop their employability skills and connect with employers. Visit their website at sc.edu/careercenter or contact them at 803-777-7280.

Multicultural Student Affairs

The Office of Multicultural Student Affairs supports an inclusive campus environment by providing educational and social programs and supporting and advocating for historically underrepresented student populations. Visit their website at sc.edu/multicultural or contact them at 803-777-7716 or saomsa@mailbox.sc.edu.

Office of Off-Campus Living (OOCL) and Neighborhood Relations

The OOCL helps students transition to and thrive in off-campus residences and understand the rights and responsibilities of residing in Columbia. Students looking for off-campus housing opportunities or information should visit their website at sc.edu/offcampusliving or contact them at 803-777-3366 or saocss@mailbox.sc.edu.

Registrar

The University Registrar oversees student educational records, the academic calendar, course registration, enrollment verification, transfer credits and issuing diplomas. The Office of the Registrar also manages veterans' services and citizenship and S.C. residency verification. Visit their website at sc.edu/registrar or contact them at 803-777-5555.

Bursar

The University Bursar's Office oversees student billing and other financial information. Visit their [website](#) or contact them at 803-777-4233 or bursar@mailbox.sc.edu.

Student Conduct and Academic Integrity

The Office of Student Conduct and Academic Integrity upholds the student code of conduct by addressing and adjudicating students' alleged violations. Visit their [website](#).

Leadership and Service Center

The Leadership and Service Center equips students to positively impact their communities through involvement in student organizations, leadership development, service, and civic engagement. Visit their website at sc.edu/leadershipandservicecenter or contact them at 803-777-7130. Some student organizations specifically tailored to graduate students are:

Graduate Student Association (GSA)

The GSA is dedicated to the advancement and development of the graduate and professional students at USC. For more information, contact them sogsa@mailbox.sc.edu.

Black Graduate Student Association (BGSA)

The BGSA fosters an academic, professional, and social environment for black graduate students and to serve as an aid in advocating the needs and concerns of black graduate students at USC. For more information, contact them at sobgsa@mailbox.sc.edu.

Maternal and Child Health (MCH) Student Association (MCHSA)

MCHSA connects multidisciplinary undergraduate and graduate students with interests in MCH-related careers that focus on the health and well-being of mothers, infants, children, and adolescents. MCHSA offers a platform for students to meet and discuss MCH-related topics. For more information, contact them at somchsa@mailbox.sc.edu.

Delta Omega Public Health Honor Society

Delta Omega is an honorary society for graduate and undergraduate students in public health. For more information, contact them at deltaomg@mailbox.sc.edu.

Sexual Assault and Violence Intervention and Prevention (SAVIP)

The university strives to prevent interpersonal violence and support anyone who has experienced or been affected by it. To speak with an advocate, call 803-777-8248 or visit SAVIP during business hours (1409 Devine Street). Students, faculty and staff can talk to a trained interpersonal violence advocate. To learn more about SAVIP, please visit https://www.sc.edu/about/initiatives/safety/stop_sexual_assault/index.php.

Student Success Center

The Student Success Center provides course-specific and general study skills assistance, as well as services for transfer and veteran students. Visit their website at sc.edu/success or contact them at 803-777-1000 or sassc@mailbox.sc.edu.

Substance Abuse Prevention and Education (SAPE)

The Office of SAPE helps students identify risky behaviors, hone decision-making skills and make safer choices regarding alcohol and drug use. Visit their website at sc.edu/sape or contact them at 803-777-3933 or sape@sc.edu.

Office of Sustainability (OS)

The OS promotes collaborations among the USC community and the surrounding community to implement the changes needed to create a sustainable campus and society. Visit their website at sc.edu/sustainability or contact them at sustainability@sc.edu

Student Disability Resource Center (SDRC)

The SDRC helps students with disabilities and temporary injuries to manage the demands of University life, and also assists the University community to make programs and activities accessible to all. To apply for accommodations, you should start the application process as soon as you are admitted to the University or experience an injury that will affect your performance. Please visit the [SDRC Homepage](#) for more information.

Student Grievances, Appeals and Petitions

USC's policies serve as guidelines for students. Occasionally, students may feel they have grounds to seek exception from the uniform application of policies. Graduate students may file written grievances, appeals or petitions to the Office of Faculty Affairs seeking to reverse or modify decisions. For more information, please go to [SPH Graduate Student Grievance Procedure](#).

ACADEMIC INTEGRITY

Only in an environment where honesty and integrity are core values can we truly advance the science and practice of public health. The Department of Epidemiology and Biostatistics places a premium on academic integrity. Violations of academic integrity are thus taken very seriously. Many details about academic integrity are described below, but a fundamental precept to guide your approach is to take pride in doing work to the best of your natural abilities and doing so honestly and fairly.

The following excerpts are taken from STAF 6.25 Academic Responsibility – The Honor Code, last revised August 1, 2017.

“The Honor Code is a set of principles established by the university to promote honesty and integrity in all aspects of a student’s academic career. It is the responsibility of every student at USC to adhere steadfastly to truthfulness and to avoid dishonesty in connection with any academic program. A student who violates, or assists another in violating the Honor Code, will be subject to university sanctions. The Honor Code delineates the values set forth in the tenets of the Carolinian Creed (www.sa.sc.edu/creed). When a student is uncertain as to whether conduct would violate this Honor Code, it is the responsibility of the student to seek clarification from the appropriate faculty member or instructor of record.”

The following is a list of Honor Code Violations with associated prohibited behaviors.

Plagiarism:

Use of work or ideas without proper acknowledgment of source. Prohibited behaviors include:

- Partial or incomplete citation of work or ideas.
- Improperly paraphrasing by acknowledging the source but failing to present the material in one’s own words.
- Paraphrasing without acknowledgment of the source.
- Multiple submissions of the same or substantially the same academic work for academic credit.
- Copying, partially or entirely, any material without acknowledgement of the source.

Cheating:

Improper collaboration or unauthorized assistance in connection with any academic work. Prohibited behaviors include:

- Requesting unauthorized assistance
- Providing aid or assistance to or receiving aid or assistance from another individual or source without permission (including improper collaboration), in conjunction with academic work.
- Copying another individual’s or group’s academic work.

- Allowing others to complete an assignment or portion of an assignment for you (e.g., having an online tutor complete your work, buying a paper, having another person complete a test for you).
- Using any material or aid that is not authorized by the person giving the test, project, or other assignment (e.g., websites, cell phone, calculator, notes, previous test materials) for an unfair academic advantage.
- Using, possessing, or distributing the contents of any examination (e.g., unauthorized access to test/quiz information, unauthorized duplication of test/quiz materials) without authorization.
- Engaging in an act of bribery or coercion. Bribery refers to soliciting, receiving, or giving an item of value in exchange for academic work.
- Taking, misplacing, or damaging property if the student knows or reasonably should know that an unfair academic advantage would be gained.

Falsification:

Misrepresenting or misleading others with respect to academic work or misrepresenting facts for an academic advantage. Prohibited behaviors include:

- Signing in for another student who is not in attendance, requesting this action of others, or signing into class and not attending the entire class period.
- Violation of Classroom rule and/or failing to comply with instructions given by the person administering a test, project, or other assignment, or given in conjunction with the completion of course requirements.
- Interfering with an instructor's ability to evaluate accurately a student's competency or performance on any academic work.
- Fabrication of documents submitted in connection with academic work.

Complicity:

Assisting or attempting to assist another in any violation of the Honor Code. Prohibited behaviors include:

- Sharing academic work with another student (either in person or electronically) without the permission of the instructor.
- Communicating (either in person or electronically) with other students(s) or other individual(s) during an examination without the permission of the instructor.

All work submitted by a student is expected to be that student's own work **unless the instructor specifically states that students may work together on the assignment/homework/project, etc.** If permitted by the instructor, students may use their notes and books and other references for take-home examinations but cannot consult with each other.

If a student is writing a paper that uses external sources of information, **all external sources of information must be cited.** If the sources are used verbatim, the words must be in quotation marks and the source must be cited. If the sources have been paraphrased, the sources still must be cited. A paper submitted for one class may not be submitted for a subsequent class, unless a student has the express permission of the

professor of the subsequent class. This might happen if the current work builds upon previous work.

The Use of Generative Artificial Intelligence (GenAI):

We are currently amidst a transformative era with the widespread availability of generative artificial intelligence (GenAI). On the one hand, GenAI can be embraced as a valuable tool to increase learning and productivity. Conversely, GenAI introduces concerns about ethical conduct of research and violations of academic integrity. In the current climate, you can expect that faculty will have a broad spectrum of approaches to the use of GenAI in the classroom, ranging from prohibiting the use of GenAI to prominently integrating GenAI into their course with the expectation that you will use it under defined parameters.

In this environment, it is important for you to be cautious and avoid putting yourself at risk for a violation of academic integrity via inappropriate use of GenAI. According to the USC Office of Student Conduct and Academic Integrity, the use of AI can be “a violation of Cheating-Unauthorized Aid, Cheating-Improper Collaboration, Plagiarism-Copying Work, or Falsification-Violation of Classroom Policies.” Be sure to check with your course instructor and be sure you adhere to the course policies before you use GenAI for any coursework.

This section is not meant to thoroughly cover all situations involving academic integrity. If questions arise, please discuss them with your instructor, advisor, or Graduate Director. Plagiarism and other violations of the Honor Code are serious offenses and will be taken up with the Office of Academic Integrity. For more information, visit the Office of Student Conduct and Academic Integrity [website](#).

Aspiring to Excellence in Integrity and Civility: The Carolinian Creed

The Carolinian Creed was authored by a group of students, faculty, and staff and approved by the Faculty Senate, Student Senate, and the USC Board of Trustees. The principles delineated in the Carolinian Creed articulate a vision of civility and positive inter-personal skills that are critical to career success in epidemiology and biostatistics.

The community of scholars at USC is dedicated to personal and academic excellence. Choosing to join the community obligates each member to a code of civilized behavior.

As a Carolinian ...

- I will practice personal and academic integrity;
- I will respect the dignity of all persons;
- I will respect the rights and property of others;
- I will discourage bigotry, while striving to learn from differences in people, ideas and opinions;
- I will demonstrate concern for others, their feelings, and their need for the conditions which support their work and development.

COMMUNICATION

E-mail is the official means of communication at ASPH. E-mail is used to communicate about departmental activities, invitations, deadlines for various events, mail from your professors, etc. Students should check their email regularly for important information.

Department Listserv

All departmental students must subscribe to the Department Listserv to keep up with what is happening in the department and in ASPH. Seminars, class changes, graduate assistantship and job opportunities, registration requirement updates, and other valuable information will be sent to you via the Listserv. Instructions for subscribing are below.

To Subscribe to the EPIDBIOS Listserv:

- Send an e-mail to: listserv@listserv.sc.edu
- No subject
- In text area type the following: "SUBSCRIBE EPIDBIOS Your Name"
- Send the message without a signature

Note: If the subscription is successfully sent, you will receive a message from the Listserv system informing you of your acceptance. If you are not successful, visit the ASPH Health Sciences Computer Lab (Discovery 431) or call University Technology Services at 803-777-1800 for assistance.

To Unsubscribe from the EPIDBIOS Listserv

To cancel your subscription to the listserv, send an email message to the server hosting the specific list, listserv@listserv.sc.edu. In the body of the message include the command: SIGNOFF EPIDBIOS. You must send this command from the email account you subscribed from (otherwise it will not delete your subscription).

Departmental Seminars

In addition to formal training experiences, the Department offers a monthly departmental seminar series that students should plan to attend to expand their breadth of knowledge of leading-edge research in an informal setting.

In addition to the monthly departmental seminar, students are encouraged to seek out other seminars offered within ASPH as well as other departmental learning forums such as thesis, dissertation, and practicum presentations.

Graduate Directors, Program Directors, and Support Staff

The following are individuals with whom you will become familiar while you are a student here. Their contact information is given below.

Graduate Directors and MPH Program Director

Susan Steck, Ph.D., M.P.H.
Graduate Director
Epidemiology MS and PhD
stecks@mailbox.sc.edu
803-777-1527

Robert Moran, Ph.D.
Graduate Director
Biostatistics
rrmoran@mailbox.sc.edu
803-777-7876

Myriam Torres, Ph.D., M.S.P.H.
Graduate Program Director
MCH Certificate Program Director
Epidemiology MPH
myriam.torres@sc.edu
803-777-6852

Graduate and Program Directors should be contacted directly if you have questions pertaining to:

- Program of Study and curriculum
- Advisement
- Progress towards degree completion
- Graduation requirements

Requests for forms can be emailed to the Program Coordinator.

Administrative Staff

Stephanie Kline
Business Manager
sdriver@mailbox.sc.edu
803-777-5876
803-777-7353

Janine Rominger
Program Coordinator
janiner@mailbox.sc.edu
803-777-7666

Chase Ferch
Grants Coordinator
ferchc@mailbox.sc.edu
803-777-8960

The Program Coordinator should be contacted directly for any questions about the degree programs, University policies and procedures, requests for forms, or other topics. If you are unsure about who to contact regarding a specific question related to the Department or University, always start with the Program Coordinator. The Business Manager and Grants Coordinator should be contacted directly only after being instructed to do so by a Graduate Director or the Program Coordinator. The Graduate School should be contacted only after being instructed to do so by a Graduate Director or Program Coordinator.

Faculty and Research Areas of Interest

Full-time Faculty

Swann A. Adams, Ph.D., University of South Carolina, 2003

Professor, Epidemiology and College of Nursing

Research interests: cancer epidemiology, physical activity, breast cancer, and ethnic disparities in cancer

swann.adams@sc.edu

Anthony J. Alberg, Ph.D., M.P.H. Johns Hopkins University, 1994

Professor and Chair, Department of Epidemiology and Biostatistics

Research interests: cancer epidemiology, including lung, skin, and ovarian cancers; health effects of tobacco products; tobacco control; epidemiology of tobacco use

alberg@mailbox.sc.edu

Pieter Baker, Ph.D., MPH, University of California San Diego-San Diego State

University Joint Doctoral Program in Public Health, 2020

Assistant Professor, Epidemiology

Research interests: infectious diseases, substance use, drug policy/enforcement, human rights

pieter@mailbox.sc.edu

Nansi Boghossian, Ph.D., MPH, University of Iowa, 2011

Associate Professor, Epidemiology

Research interests: perinatal epidemiology, pregnancy complications, preterm birth, birth defects, global health

nboghoss@mailbox.sc.edu

Kyndall Braumuller, Ph.D., M.S., University of South Carolina, 2022

Research Assistant Professor, Epidemiology

Research interests: vector-borne disease epidemiology, vector-borne disease ecology, control of vector-borne diseases, One Health

kyndallb@email.sc.edu

Monique J. Brown, Ph.D., MPH, Virginia Commonwealth University-SOM, 2014

Associate Professor, Epidemiology

Research Interests: social and behavioral epidemiology, psychosocial and behavioral factors associated with living with HIV/AIDS, aging and HIV/AIDS, life course, vulnerable populations, health disparities, sexual health, mental health, meditation analysis, adverse childhood experiences

Brownm68@mailbox.sc.edu

Bo Cai, Ph.D., University of Auckland, NZ, 2003

Professor, Biostatistics

Research interests: Bayesian random effects selection, nonparametric modeling, multivariate analysis, mixture models, and the relevant application area including human reproductive study, child health and toxicology, Computational statistics, Markov chain Monte Carlo methods, sampling methods based on Markov chain

bcai@mailbox.sc.edu

Alyssa Clay-Gilmour, Ph.D., State University of New York at Buffalo, 2016

Associate Professor, Epidemiology

Research interests: genetic epidemiology, statistical genomics, relationships between exposures and genomic variants that modify susceptibility to cancer etiology and clinical outcomes, hematologic malignancies and blood and marrow transplantation claygila@mailbox.sc.edu

Rahul Ghosal, Ph.D., North Carolina State University, 2019

Assistant Professor, Biostatistics

Research interests: functional data analysis, distributional data analysis, variable selection, survival analysis, Bayesian inference, physical activity, Alzheimer's disease.

rghosal@mailbox.sc.edu

Pengfei Guo, Ph.D., Yale University, 2024

Assistant Professor, Epidemiology

Research interests: environmental epidemiology, maternal and child health, brain health, causal inference, metabolomics.

pquo@mailbox.sc.edu

Beniamino Hadj-Amar, Ph.D., University of Warwick, 2020

Assistant Professor, Biostatistics

Research interests: **Methods**: Bayesian modeling, Bayesian computing, Gaussian processes, time series, Bayesian nonparametrics, Bayesian variable selection, change-point models, hidden Markov models, statistical spectral analysis, graphical models. **Applications**: neuroscience, wearable devices, neuroimaging, circadian studies, respiratory research.

hadjamar@mailbox.sc.edu

James W. Hardin, Ph.D., Texas A&M University, 1992

Professor, Biostatistics

Research interests: applied research in behavior outcomes (risky sexual behavior, smoking cessation, etc.), applied research in health outcomes (orthopedics, cancer, and nutrition), network analysis, correlated data analysis, structural equation modeling jhardin@mailbox.sc.edu

James R. Hébert, Sc.D., Harvard University, 1984
Health Sciences Distinguished Professor of Epidemiology; Director, Cancer Prevention and Control Program
Research interests: dietary assessment, diet and physical activity interventions, measurement bias, nutritional epidemiology, cancer epidemiology, complementary and alternative medicine
jhebert@sc.edu

Brandon Hollingsworth, Ph.D., North Carolina State University, 2020
Research Assistant Professor, Epidemiology
Research interests: spatial epidemiology, mathematical modeling, vector-borne diseases, health disparities, environmental factors that influence disease risk
Bh100@mailbox.sc.edu

Mufaro Kanyangarara, Ph.D., Johns Hopkins University, 2015
Assistant Professor, Epidemiology
Research interests: infectious diseases including malaria and HIV, maternal and child health, global health
mufaro@mailbox.sc.edu

Danielle Krobath, Ph.D., Tufts University, 2022
Assistant Professor, Epidemiology
Research interests: childhood obesity prevention, health inequities, structural and interpersonal discrimination, U.S. food and nutrition policy, community-based participatory methods, social epidemiology
dkrobath@mailbox.sc.edu

Angela D. Liese, Ph.D., University of North Carolina, 1996
Professor, Epidemiology
Research interests: dietary assessment, epidemiology of obesity, diabetes and cardiovascular disease, emphasis on children and youth
liese@mailbox.sc.edu

Jihong Liu, Sc.D., Harvard University, 2003
Professor and Division Director for Epidemiology
Research interests: maternal and child health epidemiology, reproductive and perinatal epidemiology, physical activity and nutrition in pregnancy and early life, health disparity, survey data collection and analysis, international health
jliu@mailbox.sc.edu

Matthew C. Lohman, Ph.D., MHS, Virginia Commonwealth University, 2014
Associate Professor, Epidemiology
Research interests: epidemiology of aging, psychiatric epidemiology, survey data analysis, cognitive health, determinants and distribution of falls, injuries, and hospitalization lohmanm@mailbox.sc.edu

Alexander McLain, Ph.D., University of South Carolina, 2008

Professor, Biostatistics

Research interests: survival analysis, joint modeling of longitudinal and survival data, multiple testing, fecundity modeling, prediction of survival outcomes, and mixed effects models

mclaina@mailbox.sc.edu

Anwar Merchant Sc.D., Harvard University, 2001

Professor, Epidemiology

Research interests: improving health and preventing disease through lifestyle changes; possible effects of lifestyle on disease, and societal and personal factors influencing lifestyle; relation between infection and chronic disease

merchant@mailbox.sc.edu

Maggi Miller, Ph.D., M.S., University of South Carolina, 2012

Research Assistant Professor, Epidemiology; South Carolina Alzheimer's Disease Registry Manager, Office for the Study of Aging

Research interests: Alzheimer's disease and related disorders, caregivers of individuals with Alzheimer's disease, social capital, survey development

chandlmj@mailbox.sc.edu

Robert Moran, Ph.D., University of South Carolina, 2004

Clinical Associate Professor and Graduate Director for Biostatistics

Research interests: nutritional instruments; data management

rrmoran@mailbox.sc.edu

Melissa Nolan, Ph.D., MPH, Baylor College of Medicine, 2015

Associate Professor, Epidemiology

Research interests: infectious diseases and health disparities

msnolan@mailbox.sc.edu

Andrew Ortaglia, Ph.D., University of South Carolina, 2012

Clinical Associate Professor, Biostatistics

Research interests: semi-parametric models, survival analysis, health aspects of physical activity

ortaglia@mailbox.sc.edu

Nandita Perumal, Ph.D., MPH, University of Toronto, 2019

Assistant Professor, Epidemiology

Research interests: perinatal epidemiology, maternal and child nutrition, health, and development, global health

nperumal@mailbox.sc.edu

Enakshi Saha, Ph.D., University of Chicago, 2021

Assistant Professor, Biostatistics

Research interests: Bayesian statistics, machine learning, omics data, gene regulatory networks

esaha@mailbox.sc.edu

Stella Self, Ph.D., Clemson University, 2019

Associate Professor, Biostatistics

Research interests: Bayesian spatio-temporal modeling, models for forecasting vector-borne disease, multidimensional nonparametric functional estimation scwatson@mailbox.sc.edu

Nelis Soto-Ramirez, Ph.D., MS, MPH, University of South Carolina, 2012

Clinical Assistant Professor, Epidemiology

Research interests: maternal and child health, perinatal epidemiology, child welfare, epigenetics
sotorami@mailbox.sc.edu

Susan E. Steck, Ph.D., MPH, RDN, University of North Carolina at Chapel Hill, 1999

Professor, Epidemiology, Graduate Director for MS and PhD in Epidemiology;

Research interests: nutrition and cancer prevention and survivorship, personalized nutrition, health disparities, dietary patterns, biomarkers
stecks@mailbox.sc.edu

Myriam E. Torres, Ph.D., MSPH, University of South Carolina, 2001

Clinical Professor and MPH Program Director of Epidemiology;

Director, Consortium for Latino Health Studies; Assistant Dean for Public Health Practice

Research interests: Hispanic/Latino health issues, perinatal issues among Latinas, International research
torresme@mailbox.sc.edu

Yuan Wang, Ph.D., University of Wisconsin-Madison, 2018

Associate Professor, Biostatistics

Research interests: joint modeling of structural and functional neuroimaging data, topological signal processing of neuroimaging time series, topological brain network analysis
wang578@mailbox.sc.edu

Michael D. Wirth, Ph.D., MSPH, University of South Carolina, 2012

Assistant Professor, College of Nursing and Epidemiology; Research Investigator, Connecting Health Innovations (CHI), LLC

Research interests: circadian rhythm disruption (e.g., shift work, clock gene polymorphisms, sleep disruption, hormone secretion), cancer epidemiology, the Dietary Inflammatory Index, occupational epidemiology, cancer screening, health disparities
wirthm@mailbox.sc.edu

Jiajia Zhang, Ph.D., Memorial University of Newfoundland, 2007

Professor and Division Director for Biostatistics

Research interests: accelerated failure time model, frailty model, mixture cure model, statistical computation, semiparametric estimation method

jzhang@mailbox.sc.edu

Yanan Zhang, Ph.D., University of South Carolina, 2023

Clinical Assistant Professor, Biostatistics

Research interests: Bayesian data analysis, survival analysis, statistical applications in the fields of epidemiology.

yanan@email.sc.edu

Emeritus Faculty

J. Wanzer Drane, P.E., Ph.D., Emory University, 1967 Distinguished Professor Emeritus

Research interests: space-time statistics, biometric modeling of mammalian biology, nonlinear regression, statistics of geographical information systems, mail-back questionnaires, community trials, and improving biostatistics in developing countries

Linda J. Hazlett, Ph.D., MPH, MT (ASCP), University of South Carolina, 2004
Clinical Associate Professor Emeritus, Epidemiology

Research interests: cancer epidemiology, clinical research, pedagogy

ljhazlet@mailbox.sc.edu

James R. Hussey, Ph.D., Virginia Polytechnic Institute and State University, 1983
Clinical Associate Professor Emeritus, Biostatistics

Research interests: experimental design, mixed models, longitudinal data analysis jhussey@mailbox.sc.edu

Robert E. McKeown, Ph.D., University of South Carolina, 1991, Duke University, 1976 Distinguished Professor Emeritus; Adjunct Faculty; Past Chair, Department of Epidemiology and Biostatistics; Past President, American College of Epidemiology; Past Chair, APHA Epidemiology Section.

Research interests: psychiatric epidemiology, child and adolescent health, public health statistics, public health ethics; social capital and faith communities

Harris Pastides, Ph.D., Yale University, 1980

Professor Emeritus, University of South Carolina

Research interests: health disparities research, occupational and environmental epidemiology, international health, and applied research in developing country environmental health issues

Adjunct Faculty

Cheryl L. Addy, Ph.D., Emory University, 1988

Professor and Chair of Biobehavioral and Nursing Science, USC College of Nursing

Research interests: categorical data analysis, survey data analysis, epidemiologic methods, physical activity and public health, psychiatric epidemiology, maternal and child health

Daheia J. Barr-Anderson, Ph.D.

Adjunct Professor; Professor, College of Health and Human Services, University of North Carolina Charlotte

Research interests: community and home-based interventions, physical activity epidemiology, obesity and physical activity among African Americans

Nathaniel Bell, Ph.D.

Adjunct Assistant Professor; Director of Research and Evaluation, Institute for Families in Society, USC College of Social Work

Research interests: GIS; spatial, socioeconomic, and behavioral determinants of health.

Eric Brenner, M.D.

Adjunct Associate Professor

Research interests: communicable disease control programs, tuberculosis and vaccine preventable diseases.

Jim Burch, Ph.D.

Adjunct Professor; Professor of Epidemiology, Virginia Commonwealth University. Research interests: Molecular epidemiology, cancer epidemiology, environmental and occupational health

Virginie Daguise, Ph.D.

Adjunct Assistant Professor; Bureau Director, Chronic Disease and Injury Prevention – SC Department of Public Health. Research interests: cancer epidemiology

Jan Eberth, Ph.D.

Professor and Chair, Health Management and Policy, Drexel University

Research interests: Cancer screening and prevention, social epidemiology and health disparities, medical geography and GIS applications, access

Marco Geraci, Ph.D.

Adjunct Professor; Professor of Statistics, Sapienza University of Rome

Research interests: Statistical methods and applications for health sciences, quantile inference, random-effects models, multivariate statistics, spatial statistics

Khosrow Heidari, MA, MA, MA

Adjunct Instructor, Senior Epidemiology, Bureau of Drug Control, South Carolina Department of Health and Environmental Control

Godwin Mbamalu, Ph.D. FAIC

Adjunct Professor, Distinguished Professor of Chemistry at Benedict College.

Research interests: environmental and analytical chemistry and health disparities.

Suzanne McDermott, Ph.D.

Adjunct Professor; Professor, CUNY Graduate School of Public Health

Research interests: Epidemiology of neurodevelopmental disability in newborns, perinatal epidemiology, disability epidemiology, design of randomized intervention studies

Nitin Shivappa, Ph.D. Adjunct Assistant Professor

Research interests: dietary inflammatory index, cardiovascular diseases and menthol cigarette smoking

Feifei Xiao, Ph.D.

Adjunct Associate Professor; Associate Professor of Biostatistics, University of Florida

Research interests: Gene-gene or gene-environment interaction, copy number variation (CNV) detection and association study, epigenetics modeling, cancer, pediatrics & psychiatry, big data analyses, cancer genetic epidemiology using public health data sets.

Epidemiology M.P.H. Degree Programs Mission, Goals, and Learning Outcomes (Competencies)

The M.P.H. in Epidemiology is offered in two modalities, in-person or online 100% asynchronous. **Note: MPH students enrolled in the Traditional Programs (In-Person) must take their courses in-person. Exceptions must be approved by the MPH Graduate Director**

Mission

The mission of the Master of Public Health (M.P.H.) degrees in Epidemiology is to prepare students to apply epidemiologic methods and skills in a public health practice setting.

Goal

Students will learn and develop skills in planning and conducting epidemiological studies; developing and evaluating surveillance programs; developing culturally appropriate protocols for data collection; performing data analysis and presenting results orally and in writing. Upon graduation, students will be competitive for positions available at state health or governmental health departments, private industry, clinical, or university settings.

Upon completion of the M.P.H. degree program, students will be able to:

1. Apply epidemiologic methods in public health settings,
2. Demonstrate successful achievement of epidemiology-specific competencies, and
3. Demonstrate successful achievement of the M.P.H. knowledge and foundational competencies.

The competencies (CEPH) or learning outcomes (SACS) are described below. Note that “competencies” and “learning outcomes” are two different terms to describe the same concepts. CEPH, the accrediting body for programs and schools of public health, uses the word competencies, and SACS, the USC accrediting body, uses the words learning outcomes.

The foundational public health knowledge competencies and the M.P.H. foundational competencies are taught and assessed in the M.P.H. core classes. The epidemiology-specific competencies are taught and assessed in the epidemiology M.P.H. non-core course requirements.

Foundational Public Health Knowledge Competencies (CEPH)

Profession & Science of Public Health

1. Explain public health history, philosophy and values.
2. Identify the core functions of public health and the 10 Essential Services.
3. Explain the role of quantitative and qualitative methods and sciences in describing and assessing a population's health.
4. List major causes and trends of morbidity and mortality in the US or other community relevant to the school.
5. Discuss the science of primary, secondary and tertiary prevention in population health, including health promotion, screening, etc.
6. Explain the critical importance of evidence in advancing public health knowledge.

Factors Related to Human Health

7. Explain effects of environmental factors on a population's health.
8. Explain biological and genetic factors that affect a population's health.
9. Explain behavioral and psychological factors that affect a population's health.
10. Explain the social, political and economic determinants of health and how they contribute to population health and health inequities.
11. Explain how globalization affects global burdens of disease.
12. Explain an ecological perspective on the connections among human health, animal health and ecosystem health (e.g., One Health).

Epidemiology-Specific M.P.H. Competencies or Learning Outcomes

1. Evaluate a public health surveillance system, identify salient gaps, and methods to address them.
2. Determine the appropriate study designs for a given public health problem and context.
3. Compare and contrast the strengths and limitations of epidemiologic study designs (randomized trials and observational studies), including biases and methods to minimize bias.
4. Formulate a research question and manage and analyze data from public health administrative or surveillance data, or electronic health data repositories.
5. Develop appropriate data collection protocols for a given public health issue and context.
6. Critically evaluate epidemiologic scientific literature.

Epidemiology M.P.H. Foundational Competencies (CEPH)

Evidence-based Approaches to Public Health

1. Apply epidemiological methods to the breadth of settings and situations in public health practice.
2. Select quantitative and qualitative data collection methods appropriate for a given public health context.
3. Analyze quantitative and qualitative data using biostatistics, informatics, computer-based programming and software, as appropriate.
4. Interpret results of data analysis for public health research, policy, or practice.

Public Health & Health Care Systems

5. Compare the organization, structure and function of health care, public health, and regulatory systems across national and international settings.
6. Discuss the means by which structural bias, social inequities and racism undermine health and create challenges to achieving health equity at organizational, community and societal levels.

Planning & Management to Promote Health

7. Assess population needs, assets and capacities that affect communities' health.
8. Apply awareness of cultural values and practices to the design or implementation of public health policies or programs.
9. Design a population-based policy, program, project or intervention.
10. Explain basic principles and tools of budget and resource management.
11. Select methods to evaluate public health programs.

Policy in Public Health

12. Discuss multiple dimensions of the policy-making process, including the roles of ethics and evidence.
13. Propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes.
14. Advocate for political, social or economic policies and programs that will improve health in diverse populations.
15. Evaluate policies for their impact on public health and health equity.

Leadership

16. Apply principles of leadership, governance and management, which include creating a vision, empowering others, fostering collaboration and guiding decision-making.
17. Apply negotiation and mediation skills to address organizational or community challenges.

Communication

18. Select communication strategies for different audiences and sectors.
19. Communicate audience-appropriate public health content, both in writing and through oral presentation.
20. Describe the importance of cultural competence in communicating public health content.

Interprofessional Practice

21. Perform effectively on interprofessional teams.

Systems Thinking

22. Apply systems thinking tools to a public health issue.

Epidemiology M.P.H. Degree Programs

Important Dates & Forms

Below you will find specific dates related to the MPH in Epidemiology progression; for official USC dates, visit the [Office of the Registrar](#), University of South Carolina official Academic Calendars.

Fall 2025

1 st week in June	Advisement for Fall Year 1 with M.P.H. Program Director; register for classes
August 18	New Student Orientation
August 19	First Day of Class

Spring 2026

January 12	First day of class
February 17	Contact Dr. Zach Jenkins and M.P.H. Program Director to discuss Applied Practice Experience (APE) and APE site options
April 6 - 10	Contact Academic Advisor – advisement for Summer and Fall; Register for classes
April 15	M.P.H. students' annual meeting with M.P.H. Program Director
End of semester	Meet with faculty practice experience advisor to discuss APE competencies, proposal process, and practice settings, etc. *†
End of semester	Identify Practice Experience setting
May 22	Submit Master's Program of Study (MPOS) to M.P.H. Program Director for approval

* Earliest APE completion during Summer before Year 2

† If you wish to complete your APE during the summer following year 1, see the Spring Year 1 APE (for summer) timeline below.

Fall 2026

August 18	First Day of Class
October 19-23	Contact Preceptor to discuss current public health-related projects and initiatives at the organization
November 2-6	Work with faculty advisor and site preceptor to finalize competencies based on deliverables needed by practice setting
November 3	Contact academic advisor – advisement for Spring Semester; Register for classes
November 17	First draft of APE proposal to faculty advisor and site preceptor
December 15	Submit APE proposal in APEX for faculty advisor approval

Spring 2027

January 11	First day of class
April 24	APE Oral Presentation Deadline
May 1	Final Deadline to upload the final documents to APEX to be eligible for Spring graduation, including a) oral presentation, b) approved final written report, and c) any other documents produced and approved as part of the APE.

Student choosing to do APE during Summer after year 1

Use these Spring 2026 APE Milestones instead of what is listed in above timeline.

February	Meet with Dr. Zach Jenkins and M.P.H. Program Director to discuss Applied Practice Experience and APE site options
February 16-20	Meet with faculty practice experience advisor to discuss APE competencies, proposal process, etc.
March 16	Identify Practice Experience Setting and Site Preceptor
April 6-10	Meeting with Preceptor to discuss current public health-related projects and initiatives at the organization
April 12-18	Meet with faculty advisor and site preceptor to determine final competencies based on deliverables needed by practice setting
May 1	First draft of APE proposal to faculty advisor and site preceptor
May 8	Submit APE proposal in APEX if completing APE in Summer

Advisement and Progression Information

Academic Advisor

Each student will be assigned an epidemiology faculty member to serve as an Academic Advisor, who will work with the student throughout the course of the program. Students are advised as to appropriate courses, sequencing of courses, elective topics, applied practice experience (topics, competencies, practice settings, preceptors, etc.) and any additional work appropriate to preparing the student to meet career objectives. The student may ask the Graduate Director for a change of Academic Advisor for a variety of different reasons; students are encouraged to speak with the M.P.H. Program Director well in advance if contemplating a change in Advisor.

Clear and regular communication is critical to establishing and maintaining a meaningful working relationship between you and your Advisor. Expectations should be discussed at the first meeting between the student and Advisor to include the following: preferred methods of communication (e.g., email, telephone, walk-in, etc...); frequency of meetings; and who is responsible for scheduling meetings.

Advisement

Each student meets with their academic advisor before each semester to fill out an advisement form (AS-122). In the academic advisor's absence, the form can be signed by the M.P.H. Program Director. This form must be filled out and emailed to the Program Coordinator, Janine Rominger (JANINER@mailbox.sc.edu) (who will file and forward the form) to the Office of Graduate Student Services (GSS) before a student can register for classes. GSS will check for any holds on a student's registration. Once all holds have been cleared, GSS will email the approved advisement form to the student at which time they can register online for classes. Be sure to include your email address on your advisement form.

Note: For the Applied Practice Experience (EPID 798), contact the Program Coordinator and provide the name of your APE Faculty Advisor to be assigned to a section; the section number and course code (CRN) must be written on the advisement form before turning it in to the Program Coordinator.

Academic Standard for Progression

NOTE: The following departmental policy is more stringent than the general policy for the Graduate School.

All graduate students are subject to the academic policies, regulations, and academic standards of both The Graduate School and the department, school and/or college in which enrolled. The Graduate School policy stipulates that degree-seeking students must maintain at least a B (3.00 on a 4.00 scale) cumulative grade point average. Please see the USC Graduate Bulletin for more information. The Department policy stipulates that **grades of "U" (unsatisfactory for a pass/fail class) or grades below "B" on six (6)**

or more graduate credit hours in the Department's core courses will result in the dismissal of the student from the Department of Epidemiology and Biostatistics Graduate Program and disqualification for a graduate degree in Epidemiology. A student with a grade lower than "B" on a **single core course** must retake the class prior to graduation. Retaking the course and receiving a grade of "B" or better does *not* replace the original grade on the student's record. The core courses for M.P.H. epidemiology students are PUBH 724, PUBH 725, EPID 741, and BIOS 757.

Program of Study

The Master's Program of Study (MPOS) is a critical step to accomplish for each graduate student in the Department of Epidemiology and Biostatistics. The MPOS lists all courses taken to fulfill degree requirements and is approved by your academic advisor and M.P.H. Program Director. To ensure you have included all required courses, please use the M.P.H. Epidemiology Degree Requirements listed below as your guide. The MPOS should be signed by the student, student's academic advisor and the M.P.H. Program Director and filed with The Graduate School by the end of a student's first year of study. Our department has no foreign language requirement except as indicated as a condition in your acceptance letter. Courses taken for undergraduate credit can never be on any program of study.

Any changes to the MPOS form must be submitted to the M.P.H. Program Director using the Request for Adjustment in Graduate Program form (GS-43 or POSA) prior to graduation.

Transfer Credits

The Program of Study may include graduate credits transferred from another USC program or another institution. To be accepted for transfer credit, the courses must:

- Be relevant to the program into which they are transferred.
- Have course content equivalent to similar courses at USC, and a level of instruction equivalent to that of the Arnold School of Public Health.
- Have a grade of "B" or better from an accredited institution.
- Be completed within the six-year period for courses used in the master's program.
- Must not have appeared on another program of study.

Transfer credit is at the discretion of the department and must be approved by the M.P.H. Program Director. The student may be required to provide course syllabi (including course schedule) and transcript verifying grade received prior to approval of transfer credits. **No more than 12 hours of graduate credit can be transferred to master's programs in Epidemiology.**

Revalidation of Out-of-Date Courses

The maximum time for degree completion is six (6) years for master's students. The Graduate School requires that the student's Program of Study not have any courses taken more than six years ago for master's students. It is possible to revalidate the courses that exceed these deadlines. The requirement for revalidation of the courses will be left up to the discretion of the faculty member who originally taught the student. If the instructor is no longer on the faculty, a faculty member who currently teaches the class will be responsible for revalidating the coursework. See M.P.H. Program Director for more information. The form (PRE-Permit for Revalidation Examination) is available in Graduate School [Forms](#).

Progression Examination

M.P.H. Epidemiology students in the 2024 cohort **are not required** to take a progression exam. NOTE: The Department of Epidemiology and Biostatistics may choose to reinstate this requirement for future M.P.H. cohorts.

Comprehensive Assessment

A Comprehensive Assessment is required by the Graduate School for all master's students. An M.P.H. Epidemiology student's final written product created during EPID 796, Integrated Learning Experience (ILE), is used to satisfy the university's comprehensive assessment requirement. More information can be found in the section entitled Integrated Learning Experience below.

Adequate Progress Toward Degree

All master's students who remain in the program after two years must complete an academic progress report by October 1 of their third fall semester, and every fall semester following. The Master's Student Annual Report will be evaluated by the student's academic advisor and by the Department's Leadership Team, which includes the Department Chair, Division Director, Graduate Director and M.P.H. Program Director. Third and higher year students will be sent an announcement/reminder of this requirement every fall, along with the form. There are two parts to the evaluation and review: a part completed by the student and a part completed by the student's academic advisor. Students will receive a letter from the Department Chair indicating their satisfactory/unsatisfactory progress. Students determined to be making unsatisfactory progress will be provided with steps necessary to improve progress towards degree.

Degree Requirements for M.P.H. in Epidemiology

Degree Requirements Summary Table for M.P.H. in Epidemiology

PUBH Core	16 hours
Department Core	12 hours
Major Courses	6 hours
Electives	3 hours
APE & ILE	<u>6 hours</u>
Total	43 hours

School of Public Health Core (16 hours)

- PUBH 724 (3) Quantitative Methods for Public Health Practice I
- PUBH 725 (3) Quantitative Methods for Public Health Practice II
- PUBH 726 (3) Qualitative Methods for Public Health Practice
- PUBH 730 (3) Public Health Systems, Policy & Leadership
- PUBH 735 (4) Practical Applications of Public Health Planning

Department Core (12 hours)

- EPID 721 (2) Clinical and Population Research Protocol Development and Implementation
- EPID 722 (2) Scientific Writing and Critical Review of Epidemiologic Literature
- EPID 741 (3) Intermediate Epidemiologic Methods
- BIOS 709 (1) SAS I
- BIOS 719 (1) SAS II
- BIOS 757 (3) Intermediate Biostatistics

Major Courses (6 hours)

- EPID 730 (3) Public Health Surveillance Systems
- EPID 788 (3) Practical Methods in Secondary Data Analysis

Elective (3 hours)

Electives may be chosen from epidemiology or other courses in the University that support the student's overall educational goals. The Faculty Advisor must approve all elective courses.

Selected epidemiology courses are:

- EPID 542 (3) Global Health Epidemiology
- EPID 661 (4) Parasitology
- EPID 744 (3) Cardiovascular Disease Epidemiology
- EPID 746 (3) Cancer Epidemiology
- EPID 749 (3) Infectious Disease Epidemiology
- EPID 763 (3) Nutritional Epidemiology
- EPID 765 (3) Reproductive and Perinatal Epidemiology
- EPID 767 (3) GIS and Public Health Applications
- EPID 777 (3) Genetic Epidemiology
- EPID 768 (3) Psychiatric Epidemiology
- EPID 770 (3) Social Epidemiology
- EPID 869 (3) Clinical Effectiveness

Applied Practice Experience and Integrated Learning Experience (6 hours)

- EPID 798 (3) Applied Practice Experience
- EPID 796 (3) Integrated Learning Experience

M.P.H. Epidemiology Course Sequence

Full-Time Students

Course Number	Course Name	Credit	Sequence
PUBH 724	Quantitative Methods for Public Health Practice I	3	Year 1 – Fall
PUBH 726	Qualitative Methods for Public Health Practice	3	Year 1 - Fall
BIOS 709	Introduction to SAS	1	Year 1 - Fall
EPID 730	Public Health Surveillance	3	Year 1 - Fall
Total Credits Fall Year 1		10	
PUBH 725	Quantitative Methods for Public Health Practice II	3	Year 1 – Spring
PUBH 730	Public Health Systems, Policy, and Leadership	3	Year 1 - Spring
EPID 741	Intermediate Epidemiologic Methods	3	Year 1 - Spring
BIOS 757	Intermediate Biostatistics	3	Year 1 - Spring
Total Credits Spring Year 1		12	
Total Credits Year 1		22	
PUBH 735	Practical Applications of Public Health Planning	4	Year 2 - Fall
EPID 788	Practical Methods for Secondary Data Analysis	3	Year 2 - Fall
EPID 722	Scientific Writing and Critical Review of Epidemiologic Literature	2	Year 2 – Fall
BIOS 719	Advanced SAS	1	Year 2 - Fall
Total Credits Fall Year 2		10	
EPID 796	Integrated Learning Experience	3	Year 2- Spring
EPID 721	Clinical and Population Research Protocol Development and Implementation	2	Year 2 - Spring
Elective	Approved by academic advisor	3	Year 2 – Fall or Spring
EPID 798	Epidemiology Applied Practice Experience †	3	Year 2 - Spring
Total Credits Spring Year 2		11	
Total Credits Year 2		21	
TOTAL		43	

† Applied Practice Experience can be done during summer following year 1. Meet with the M.P.H. Program Director in early Spring to discuss your timeline.

M.P.H. Epidemiology Course Sequence

Part-Time Students

Course Number	Course Name	Credit	Sequence
PUBH 724	Quantitative Methods for Public Health Practice I	3	Year 1 – Fall
PUBH 726	Qualitative Methods for Public Health Practice	3	Year 1 - Fall
	Total Credits Fall Year 1	6	
PUBH 725	Quantitative Methods for Public Health Practice II	3	Year 1 – Spring
PUBH 730	Public Health Systems, Policy, and Leadership	3	Year 1 - Spring
	Total Credits Spring Year 1	6	
BIOS 757	Intermediate Biostatistics	3	Year 1 - Summer
BIOS 709	Introduction to SAS	1	Year 1 - Summer
	Total Credits Summer Year 1	4	
EPID 730	Public Health Surveillance	3	Year 2 - Fall
PUBH 735	Practical Applications of Public Health Planning	4	Year 2 - Fall
	Total Credits Fall Year 2	7	
EPID 741	Intermediate Epidemiologic Methods	3	Year 2 - Spring
EPID 721	Clinical and Population Research Protocol Development and Implementation	2	Year 2 - Spring
	Total Credits Spring Year 2	5	
EPID 798	Epidemiology Applied Practice Experience	3	Year 2 - Summer
BIOS 719	Advanced SAS	1	Year 2 - Summer
	Total Credits Summer Year 2	4	
EPID 788	Practical Methods for Secondary Data Analysis	3	Year 3 - Fall
EPID 722	Scientific Writing and Critical Review of Epidemiologic Literature	2	Year 3 – Fall
	Total Credits Fall Year 3	5	
Elective	Approved by Academic Advisor	3	Year 3 –Spring
EPID 796	Integrated Learning Experience	3	Year 3 –Spring
EPID 798	Applied Practice Experience (if not completed in Summer)	3	Year 3 –Spring
	Total Credits Spring Year 3	9	
TOTAL		43	

Degree Requirements for M.P.H. in Epidemiology for Preventive Medicine Residents

Summary of Degree Requirements

PUBH Core	16 hours
Department Core	12 hours
Major Courses	6 hours
Electives	3 hours
Applied Practice & ILE	<u>6 hours (practicum and research paper)</u>
Total	43 hours

School of Public Health Core (16 hours)

- PUBH 724 (3) Quantitative Methods for Public Health Practice I
- PUBH 725 (3) Quantitative Methods for Public Health Practice II
- PUBH 726 (3) Qualitative Methods for Public Health Practice
- PUBH 730 (3) Public Health Systems, Policy & Leadership
- PUBH 735 (4) Practical Applications of Public Health Planning

Department Core (12 hours)

- BIOS 757 (3) Intermediate Biostatistics
- EPID 741 (3) Intermediate Epidemiologic Methods
- EPID 721 (2) Clinical and Population Research Protocol Development and Implementation
- EPID 722 (2) Scientific Writing and Critical Review of Epidemiologic Literature
- BIOS 709 (1) SAS I
- BIOS 719 (1) SAS II

Major Courses (6 hours)

- EPID 730 (3) Public Health Surveillance Systems
- EPID 788 (3) Practical Methods for Secondary Data Analysis

Elective (3 hours) (required by PM competencies)

- HSPM 550 or Higher (3) Financing of Health Care or any other elective available

Practice and ILE[‡] (6 hours)

- EPID 798 (3) Epidemiology Applied Practice (in coordination with student's residency)
- EPID 796 (3) Integrated Learning Experience (in coordination with student's residency and EPID 796 Instructor)

[‡] Residents will, in consultation with their academic advisor, select competencies for both APE and ILE, to fulfill M.P.H. degree requirements.

M.P.H. Epidemiology Course Sequencing for Preventive Medicine Residents

Course Number	Course Name	Credit	Totals
PUBH 724	Quantitative Methods for Public Health Practice I	3	
PUBH 726	Qualitative Methods for Public Health Practice	3	
BIOS 709	Introduction to SAS	1	
EPID 730	Public Health Surveillance	3	
	Total Credits Fall Year 1		10
PUBH 725	Quantitative Methods for Public Health Practice II	3	
PUBH 730	Public Health Systems, Policy, and Leadership	3	
EPID 741	Intermediate Epidemiologic Methods	3	
BIOS 757	Intermediate Biostatistics	3	
	Total Credits Spring Year 1		12
	Total Credits Year 1		22
PUBH 735	Practical Applications of Public Health Planning	4	
EPID 722	Scientific Writing and Critical Review of Epidemiologic Literature	2	
EPID 788	Practical Methods for Secondary Data Analysis	3	
BIOS 719	SAS II	1	
	Total Credits Fall Year 2		10
HSPM 730 or other elective	Financing of Health Care or other elective	3	
EPID 721	Clinical and Population Research Protocol Development and Implementation	2	
EPID 798	Epidemiology Applied Practice	3	
EPID 796	Integrated Learning Experience	3	
	Total Credits Spring Year 2		11
	Total Credits Year 2		21
TOTAL CREDITS			43

Applied Practice Experience (EPID 798)

The purpose of the applied practice experience is to provide students with opportunities to apply and test public health concepts, theories, and analytical tools learned in the classroom to public health issues at a practice site. Students will have the opportunity to learn from public health professionals in any one of a variety of settings. Students will perform a limited work or service project as described in a practice experience proposal, which is developed by the student, with faculty practice advisor and site preceptor input. The project will enable the student to demonstrate attainment of five competencies, which should be described in the proposal.

Applied Practice Overview

The practice experience is an opportunity for students to demonstrate public health competencies within a public health practice organization. All students must demonstrate at least five competencies during their practice experience, three of which will be foundational and two (or more) will be selected by the student. Students will demonstrate competency attainment using a portfolio approach in which they work with a public health practice organization to develop at least two work products that will be mutually beneficial to the student and organization. Examples of products include fact sheets, projects, videos, multi-media presentations, spreadsheets, websites, posters, photos, or other digital artifacts of learning. The products should showcase the quantitative skills learned in the MPH in Epidemiology.

Students should adhere to the applied practice experience timeline in the student handbook and review the resources on the [Practice Experience website](#) for advice on locating a practice site, preceptor, and faculty practice advisor. Once the organization, preceptor and faculty practice advisor are identified, students should collaborate with these parties to identify projects at the organization that work products can be created from. Each student will develop a practice experience proposal that serves as the framework for the experience. The proposal must be agreed to by the preceptor and faculty practice advisor before the experience starts. This will take place through email exchanges or meetings. A copy of the proposal should be uploaded into [APEX](#), the data management system for the practice experience. To log into APEX, use your university email and password. Additionally, all work products and related practice experience documents should be uploaded into APEX.

The contact person for APEX is Dr. [Zach Jenkins](#), Office of Public Health Practice. Students register for EPID 798, Public Health Practice, under the CRN code specific to their faculty practice advisor. The CRN code is available from the department program coordinator and needs to be included in the advisement form prior to approval.

Students are expected to write and submit a detailed report of their practice experience including a reflection component and orally present at their site, departmental, or school-wide event.

Required Competencies

All students are required to demonstrate proficiency in five competencies. Table 1 below lists the three required foundational competencies followed by a list of seven competencies, from which each student must choose two additional competencies. The competencies are met through the deliverables as described in the practice proposal.

Setting, Requirements and Participant Roles

Setting

Numerous state and federal departments and agencies, as well as private hospitals, private organizations, and other health-related organizations, provide locations for practice experiences and projects. See a list of prior sites here: <https://mysph.sc.edu/training/table/>

Identify Faculty Practice Advisor

Each student is responsible for finding their own faculty practice advisor. The faculty practice advisor will generally be the student's academic advisor; however, students may ask another faculty member to serve in this capacity depending on the expertise required by the practice topic. The faculty practice advisor must be a current full-time, tenure- or clinical-track Epidemiology faculty member. The primary factor in advisor selection should be their ability to: a) assist in the practice experience proposal development and b) provide continued support throughout the practice field placement.

The faculty practice advisor is expected to:

- Assist the student in choosing competencies which can be assessed with student work products,
- Provide mentorship and professional guidance to the student throughout the experience,
- Provide feedback and contribute professional expertise on student practice experience proposal,
- Assess the degree of competency demonstration in work products,
- Communicate with site preceptor and student as needed,
- Assist in adjusting the selection of student work products and competencies as needed,
- Attend student's final presentation, and
- Sign off on final work products and experience in APEX.

Practice Site and Field Preceptor

Students, with assistance from their faculty practice advisor, are responsible for identifying and securing an applied practice site and site preceptor. A variety of strategies may be employed to assist students in this regard. Practice opportunities are posted in the MySPH

Opportunity Manager (mysph.sc.edu). Students may approach potential sites and/or site preceptors based on their interests or on increasing their exposure to areas beyond their interest and current expertise. The practice can be located outside of the Columbia area, outside of the state, or outside of the country.

The site preceptor is the practice site manager and student mentor, and they generally work in a public health agency or community health organization. The site preceptor should be qualified to supervise students' work and available to provide meaningful feedback on a daily or near daily basis. The individual must satisfy requirements described on [MySPH](#), and they cannot be a USC faculty member.

The site preceptor is expected to:

- Provide mentorship and professional guidance to the student throughout the experience,
- Assist in identifying work products and relevant practical experiences to be undertaken during the practice experience,
- Give feedback and contribute professional expertise on student practice experience proposal,
- Work with the Office of Public Health Practice ([Zach Jenkins](#)) to create a Memorandum of Agreement (MOA) between the Arnold School of Public Health and the practice setting if one is not already in place,
- Orient student to practice setting,
- Communicate with faculty advisor as needed,
- Provide student with timely feedback on their performance, and
- Attend student's final presentation.

Practice Proposal

A completed, signed, and dated Epidemiology Applied Practice Experience Proposal is necessary before a student can begin their fieldwork. Students are ultimately responsible for negotiating the proposal with both the site preceptor and their faculty practice advisor. This proposal is for the student's protection, as it will ensure that all parties agree upon the deliverables and experience within a pre-defined time frame. The proposal must explicitly identify the competencies to be addressed. The proposal should also define clear expectations for accomplishments in the practice experience. Contact information should be provided for all parties (i.e., student, site preceptor, and faculty practice advisor). Practice Experiences can be a variety of different projects or activities; however, all will have in common a clear epidemiologic component.

The practice experience proposal includes the following elements:

- Title page
 - Should include all relevant student, preceptor, and advisor information
- One-page summary of the Practice Experience site and population served
 - Use sources for population when relevant
- Competencies to be addressed

- Five competencies must be addressed at a minimum Three of which must be foundational competencies Work products (at least but not limited to two) to be developed
- Make sure that the competencies can be demonstrated through the products
- Strategies for achieving each of the competencies
 - Be as specific as possible
- Timeline for the scope of work and deliverables
 - Be as specific as possible
- Description of how the student, Practice Experience advisor, and Practice Experience preceptor will monitor the student's progress toward the established competencies
 - Be as specific as possible
- Special conditions or circumstances that will be negotiated and/or are unique to your Practice Experience (e.g., reimbursement for travel, security issues, training, orientation, stipends, holiday work schedule, etc.)

Students will begin fieldwork at the practice experience site and have primary contact with their site preceptor, who functions as a mentor. Students are expected to keep their faculty practice advisor updated as needed. If a problem arises, students are to inform their advisor as early as possible.

Written Report and Oral Presentation of Practice Experience

Upon completion of the practice experience, students will be evaluated on a) a detailed written report of their practice experience and b) a formal presentation of this report for the preceptor site and department. Students are to arrange the specifics of the presentation (e.g., presentation date, time and location) with their faculty practice advisor, site preceptor, and department program coordinator. The student may present in person or via video conferencing (e.g., Microsoft Teams). Students are encouraged to set the date for the presentation early in the semester by coordinating with both the faculty practice advisor and site preceptor. M.P.H. students are responsible for notifying the department regarding presentations.

The student should provide the following information via email to both the APEX Program Coordinator and M.P.H. Program Director:

- Overview of Experience
 - Student introduction
 - Name of organization
 - Name of Preceptor
 - Name of Faculty Practice Experience Advisor
 - Brief synopsis of the public health issue being addressed, including national and local data
- Description of Practice Experience Proposal
 - Competencies to be demonstrated
 - Work products to complete
 - Strategies for achieving proposal
 - Timeline and description of project completion

- Evaluation of Experience
 - Competencies demonstrated
 - Work products completed
 - Obstacles or barriers encountered
 - Recommendations for practice organization
- Reflection of Experience
 - Discuss how the experience contributed to your future professional career in public health
 - Skills and experience gained
 - How knowledge gained through coursework was applied
 - Advice for future students completing experiences

Each student who successfully completes the practice experience must submit an electronic copy of the report and oral presentation to APEX and the M.P.H. Program Director.

Ethics and Professional Standards

The Epidemiology Applied Practice Experience is a professional position in which students are representatives of ASPH and USC. Students, therefore, are expected to conduct themselves and dress in a professional manner.

Professional conditions of confidentiality are to be honored according to prevailing practice of the practice site. In general, information received from an individual or organization belongs to that individual or organization, and recipients (i.e., students) are not free to pass along this information to other parties without the consent of the individual or organization.

USC generally does not require the IRB process and approval for practice experience work. However, some projects may need to be approved by the agency review committee at which the practice experience is conducted. Any necessary approvals must be obtained prior to beginning work on the defined practice tasks. Some practice activities related to an ongoing research project may be covered under that project's IRB approval. Such approval should be discussed with the project principal investigator and/or faculty practice advisor. In most situations, notification to the IRB of a change in protocol is sufficient.

Financial support

If financial resources are required, the responsibility for negotiating these arrangements rests with the sponsoring agency and the student. These costs and responsibilities for coverage are included in the practice experience proposal.

Epidemiology Applied Practice Experience Evaluation

Three weeks prior to the practice end date, the faculty practice advisor, site preceptor and student will receive an email to complete the student's practice evaluation through MySPH. The evaluation is designed primarily to provide feedback on job performance and related issues to assist the Arnold School in monitoring practice and academic preparation for the M.P.H. program.

Frequently Asked Questions

Is the Online MPH Program easier?

No, the online courses are created mirroring the in-person version and assignments, exams and projects, evaluate the same competencies. We aim to train our MPH students rigorously in whatever modality they choose to pursue our MPH.

How do I sign up for practice experience hours?

You will register for EPID 798, three credits, during the semester you intend to complete your practice. You will need the five-digit CRN code specific to your faculty practice advisor, which you can get from the department's Program Coordinator prior to registration. This CRN must be listed on your advisement form before turning in to the Program Coordinator.

When can I do my epidemiology practice experience?

The practice can be completed after taking the first year of course work, either summer after year one or fall or spring semester of year two. You must have successfully completed PUBH 724, PUBH 725, PUBH 726, PUBH 730, EPID 730, EPID 741, BIOS 757, and BIOS 709 or have permission from the M.P.H. Graduate Director.

May I choose more than five competencies?

You may choose additional competencies as part of your practice experience; however, you will only be evaluated on the required competencies of your choice (be sure this is clearly indicated in your proposal).

May I choose competencies that are not on the list provided?

No, you cannot choose competencies that are not on the list provided. Exceptions may be granted on a case-by-case basis by the M.P.H. Graduate Director.

How many hours am I expected to work for/at the practice site?

Students are expected to work 120 hours: 90 hours at the practice setting and 30 hours writing and preparing the final written report and oral presentation.

How will I be evaluated?

Upon completion of the practice experience, students will be evaluated on a) a detailed written report of their practice experience and b) a formal presentation of this report at a departmental or school-wide event. Students are encouraged to set the date for the presentation early in the semester by coordinating with both the Faculty Advisor and Site Preceptor.

Can I do my practice experience as part of my graduate assistantship?

No. A student's practice experience cannot be part of their existing job or Graduate Assistantship (GA). Exception can only be granted with the consent of your faculty practice advisor in consultation with the M.P.H. Program Director.

Can I get paid for my practice experience?

Students are not generally paid but may be remunerated for their practice experience placements or work.

Do you have tips for how I can be successful in my practice experience?

Previous experience has indicated the following six elements are essential to a successful practice experience:

1. The student has competence/experience that indicates the potential for contributions to the organization, including knowledge gained in prerequisite courses.
2. The student and the faculty practice advisor have carefully considered the 5 competencies which can be successfully met in the framework of the practice experience.
3. The student demonstrates an understanding of the practice experience proposal and deliverables
4. The student regularly seeks advice and mentoring from their site preceptor and faculty practice advisor.
5. A site preceptor is identified who wants a productive experience for both the organization and the student.
6. An organization wants a project accomplished and "owns" the work results.

Table 1. Required Competencies for the M.P.H. Epidemiology Applied Practice Experience (EPID 798)

CEPH/Dept Competency Number	Competency	Foundational or Epidemiology	Required? Yes or No
1	Apply epidemiological methods to the breadth of settings and situations in public health practice	Foundational	Yes
6	Discuss the means by which structural bias, social inequities, and racism undermine health and create challenges to achieving health equity at organizational, community, and societal levels.	Foundational	Yes
19	Communicate audience-appropriate public health content, both in writing and through oral presentation.	Foundational	Yes
In addition to the 3 required competencies above, you must also choose two competencies from the list below. The competencies may be either foundational or epidemiology-specific, should be based on personal, professional, and practice experience goals, and are approved by your faculty practice advisor.			
2	Select quantitative and qualitative data collection methods appropriate for a given public health context.	Foundational	Choose any 2 competencies from this list.
3	Analyze quantitative and qualitative data using biostatistics, informatics, computer-based programming, and software, as appropriate	Foundational	
4	Interpret results of data analysis for public health research, policy, or practice.	Foundational	
7	Assess population needs, assets, and capacities that affect communities' health.	Foundational	
9	Design a population-based policy, program, project or intervention.	Foundational	
2	Determine the appropriate study design for a given public health problem and content	Epidemiology	
5	Develop appropriate data collection protocols for a given public health issue and context.	Epidemiology	

Integrated Learning Experience (EPID 796)

Overview

The integrated learning experience course (EPID 796) is the culminating experience in the M.P.H. program in which students demonstrate synthesis of M.P.H. foundational and concentration competencies by addressing a public health problem. Students will produce a high-quality written product, examples of which may include the following: program evaluation report, training manual, policy statement, scientific manuscript, etc. Ideally, the written product is developed and delivered in a manner that is useful to external stakeholders, such as non-profit or governmental organizations.

Students, in consultation with the EPID 796 course instructor and their academic advisor or faculty mentor, may expand on a project done in a previous course including their Epidemiology Applied Practice Experience (EPID 798). The written product should demonstrate synthesis of at least three foundational and concentration competencies appropriate for the student's educational and professional goals. If the integrated learning experience (ILE) is performed at the practice experience site, the student must demonstrate how the ILE project and the practice experience activities are distinct and how each will result in separate products and activities. The ILE is designed to be taken during the student's last semester.

Students will attend class during the semester where they will be provided with detailed information on proposal development along with constructive feedback from the instructor and classmates. Further information about the ILE can be found in the course syllabus.

Synthesis of Competencies

Students are required to demonstrate synthesis of at least three M.P.H. competencies, of which at least one must be a foundational competency and at least one must be an epidemiology specific competency. Students may choose to select more than three competencies as listed in their ILE proposal; however, students will only be evaluated on the three chosen competencies. One **foundational** competency is required for all M.P.H. students.

Required foundational competency #1 for all students: Apply epidemiological methods to the breadth of settings and situations in public health practice.

Additional two self-selected competencies: Students must choose at least one competency from each group below.

Foundational Knowledge Competencies

1. Analyze quantitative and qualitative data using biostatistics, informatics, computer-based programming, and software, as appropriate.
2. Interpret results of data analysis for public health research, policy, or practice.
3. Assess population needs, assets, and capacities that affect communities' health.
4. Design a population-based policy, program, project, or intervention.
5. Select methods to evaluate public health programs.

6. Advocate for political, social, or economic policies and programs that will improve health in diverse populations.
7. Apply systems thinking tools to a public health issue.
8. Communicate audience-appropriate public health content, both in writing and through oral presentation.

Epidemiology Competencies

1. Evaluate a public health surveillance system, identifying salient gaps, and methods to address them.
2. Determine the appropriate study design for a given public health problem and content.
3. Develop appropriate data collection protocols for a given public health issue and context.

ILE Written Proposal

The ILE proposal will provide opportunities to learn and improve writing skills. The ILE proposal should include the following sections:

1. Name of Faculty advisor/mentor
2. Project title
3. Summary/Abstract
4. Purpose
5. Significance and relevance to public health
6. Competencies to be addressed
7. Rationale/justification for how the project meets the chosen competencies
8. Description/aims
9. Methods to be utilized
10. Deliverables and outcomes
11. Timeline

Specifics about the proposal (length, font, margins, number of pages, grading rubric, etc.) are provided in the course syllabus.

ILE Final Written Product

The final written product can take one of several forms including but not limited to:

1. Program evaluation report
2. Policy statement
3. Surveillance report
4. Manuscript for peer-reviewed journal

Students wishing to develop a different product must have instructor approval. For options one through three, the course instructor along with the student's academic advisor will guide the student in drafting and writing the reports or statements. For option four, the course instructor and an epidemiology faculty member with content area expertise will guide the student through the development of a manuscript. Specifics about the final product (length,

font, margins, number of pages, grading rubric, etc.) are provided in the course syllabus.

Frequently Asked Questions

Who will be my faculty advisor for my integrated learning experience?

You have a couple of options available to you. You may ask your academic advisor or your practice faculty advisor to advise you for the ILE. You can also ask another epidemiology faculty member who has expertise in your area of interest to advise you for your ILE. The faculty member must be a full-time, tenure- or clinical-track epidemiology faculty member. Your EPID 796 Instructor will guide the process of writing this final product.

When should I begin working on my ILE?

We suggest you begin thinking about your ILE during year one; that way, you are ready to start working on your paper when you take EPID 796.

Will I be given a topic or list of topics to choose from or do I need to come up with something entirely on my own?

The ILE is your project. You can come up with your own idea and discuss it with your faculty advisor and course instructor. If you are struggling to come up with a topic, your advisor and course instructor can talk with you about your interests to guide you in your topic selection.

Applied Practice Experience (EPID 798) and Integrated Learning Experience (EPID 796) Information

	Epidemiology Applied Practice Experience (APE)	Integrated Learning Experience (ILE)
Course	EPID 798 (3 credits)	EPID 796 (3 credits)
Hours	120 hours total: 90 hours with preceptor at practice setting and 30 hours preparing written report and oral presentation); no formal coursework	Meetings as an in-person or asynchronous online class. Group discussions, peer review, and independent work on high quality written product
Purpose	Provide students with opportunities to apply and test public health concepts, theories, and analytical tools learned in the classroom in a public health site	Culminating experience where students demonstrate synthesis of M.P.H. foundational and concentration competencies by addressing a public health problem
Competencies	5 competencies (3 required foundational + 2 other)	3 foundational and concentration competencies (at least 1 foundational & at least 1 epidemiology specific); REQUIRED for all students: <i>“Apply epidemiological methods to the breadth of settings and situations in public health practice”</i>
Product(s)	1. APE proposal (completed and uploaded in APEX before starting field work) including all agreed upon deliverables and timeline 2. APE final written report 3. Final oral presentation	1. ILE proposal (submit for EPID 796) 2. Final high-quality written product (program evaluation report, training manual, policy statement, scientific manuscript)
Evaluation	Student will be evaluated on: 1. Final products 2. Practice evaluation through MySPH Opportunity Manager 3. APE evaluated by students with survey conducted by Office of Public Health Practice	EPID 796 course instructor using course evaluation
Requirements	PUBH 724 EPID 741 PUBH 725 BIOS 757 PUBH 730 or permission of M.P.H. Program Director	PUBH 724 PUBH 725 PUBH 726 PUBH 730 PUBH 735 EPID 741 or permission of M.P.H. Program Director
Sequence	Complete after 1 st year course work: Summer after year 1 or Spring semester in year 2	Complete as part of EPID 796 in last semester (can begin discussing plan with advisor in year 1)
ASPH contact person	Faculty advisor* Dr. Zach Jenkins M.P.H. Program Director	Faculty advisor* EPID 796 instructor

* APE and ILE faculty advisor can be your assigned academic advisor, or an advisor selected by student

Master of Science in Epidemiology

Important Dates & Forms

Fall 2025

1 st week in June	Advisement for Fall Year 1 with Graduate Director and register for classes
August 18	New Student Orientation
August 19	First Day of Class
Early November	Contact Academic Advisor – advisement for Spring Semester; Register for classes

Spring 2026

January 13	First day of class
January - May	Determine who will be your Thesis Chair and begin formulating a thesis topic
Early April	Contact Academic Advisor – advisement for Summer and Fall; Register for classes
April TBD	M.S. students' annual meeting with Graduate Director
May 23	Deadline to submit Master's Program of Study (MPOS) to Graduate Director for approval

Summer 2026

Optional	PUBH J700 can be taken as a summer course, and you may begin registering for Thesis credit hours with approval from your Thesis Advisor
----------	---

Fall 2026

October 1 (suggested)	Submit Master's Thesis Committee Form for approval to Graduate Director
November – January	Complete Thesis Proposal Defense and submit Thesis Proposal Defense Form/Rubric
Early November	Contact Academic Advisor – advisement for Spring Semester; Register for classes

Spring 2027

February (early)	Deadline to apply for graduation (date varies)
March 1	Submit any changes to MPOS to Graduate Director
Early March	Deadline for Thesis Format Check (date varies)
Late March	Deadline for Thesis Defense (date varies)
Early April	Deadline for Final Thesis ETD Submission (date varies)
May (TBD)	Hooding, Graduation and Department Celebration

Advisement and Progression Information

Academic Advisor

After admission to the Department of Epidemiology and Biostatistics, each student will be assigned a departmental faculty member to serve as an Academic Advisor. The Academic Advisor generally will work with the student throughout their degree program; although if the student's Thesis Chair is different from their Academic Advisor, then students may choose to have their Thesis Chair be their Academic Advisor. Students may ask the Graduate Director for a change of Academic Advisor for a variety of different reasons; students are encouraged to speak with the Graduate Director well in advance if contemplating a change.

Clear and regular communication is critical to establishing and maintaining a meaningful working relationship between you and your Academic Advisor. Expectations should be discussed at the first meeting between the student and Academic Advisor to include the following: preferred methods of communication (e.g., email, telephone, walk-in, etc...); frequency of meetings; and who is responsible for scheduling meetings. Topics at subsequent meetings include course schedule advisement; student progress; potential thesis topics and Thesis Chair selection; progress toward degree requirements; and career development opportunities.

Advisement

Students meet with their Academic Advisor before each semester to fill out an advisement form (AS-122). This form must be filled out, signed by the Academic Advisor, and emailed to the Department Program Coordinator (janiner@mailbox.sc.edu) who will submit it to the Office of Graduate Student Services (GSS) before a student can register for classes. In the Academic Advisor's absence, the form can be signed by the Graduate Director. GSS will check for any holds on a student's registration. Once all holds have been cleared, GSS will email the approved advisement form to the student at which time they can register online for classes. Students must include their email address on their advisement form.

Academic Standard for Progression

NOTE: The following departmental policy is more stringent than the general policy for the Graduate School.

All graduate students are subject to the academic policies, regulations, and academic standards of both The Graduate School and the department, school and/or college in which they are enrolled.

Grades of "U" or grades below "B" on six (6) or more graduate credit hours in the Department's core courses will result in the dismissal of the student from the Department of Epidemiology and Biostatistics Graduate Program and

disqualification for a graduate degree in Epidemiology.

A student with a lower than “B” grade on a single core course must retake the class prior to graduation. Retaking the course and receiving a grade of “B” or better does *not* replace the original grade on the student’s transcript.

Core Courses

The core courses for M.S. in Epidemiology are: EPID 701, BIOS 701, EPID 741, and BIOS 757.

Program of Study

Completing the Master Program of Study (MPOS) form for Graduate School approval is a critical step to accomplish for each graduate student in the Department of Epidemiology and Biostatistics. The (MPOS) lists all courses taken to fulfill degree requirements. Students and their Academic Advisor draft the MPOS by the end of spring semester of their first year.

All coursework listed on the Program of Study by the student must be approved by the Academic Advisor and Graduate Director. Courses not required as part of the M.S. degree program should not be listed on the MPOS. To ensure you have included all required courses, please use the M.S. Epidemiology Degree Requirements listed below as your guide. The MPOS form must be signed by the student, student’s Academic Advisor, and sent to the Graduate Director for approval in May (see Important Dates). The Graduate Director will forward the approved form to The Graduate School for approval. There is no foreign language requirement. Courses taken for undergraduate credit can never be on any program of study. 500 and 600 level classes can be listed.

Transfer Credits

The Program of Study may include graduate credits transferred from another USC program or another institution. To be accepted for transfer credit, the courses must:

- Be relevant to the program into which they are transferred.
- Have course content equivalent to similar courses at USC, and a level of instruction equivalent to that of the Arnold School of Public Health.
- Have a grade of “B” or better from an accredited institution.
- Be completed within the six-year period for courses used in the master’s program.
- Must not have appeared on another program of study.

Transfer credit is at the discretion of the department and must be approved by the Graduate School. The student may be required to provide course syllabi (including course schedule) and transcript verifying grade received prior to approval of transfer credits. **No more than 12 hours of graduate credit can be transferred to master’s programs in Epidemiology.** Transfer credits cannot be revalidated.

Revalidation of Out-of-Date Courses

The maximum time to degree completion is six (6) years for master's students. The Graduate School requires that the student's Program of Study not have any courses taken more than six years ago for master's students. However, it is still possible to revalidate the courses that exceed these deadlines. The requirement for revalidation of the courses will be left up to the discretion of the faculty member who originally taught the student. If the instructor is no longer employed at the USC, a faculty member who currently teaches the class will be responsible for revalidating the coursework. See your Graduate Director for more information. The form (PRE-Permit for Revalidation Examination) is available on the [Graduate School Forms Library website](#).

Comprehensive Assessment

A Comprehensive Assessment is required by the University of South Carolina for all master's students. A M.S. Epidemiology student's thesis proposal defense will satisfy the university's requirements for a comprehensive assessment. More information on the thesis proposal can be found below in the Thesis Section.

Adequate Progress Toward Degree

The M.S. degree program is designed to be completed in two years. All master's students who remain in the program after two years must complete an academic progress report by October 1 of their third fall semester, and every fall semester following. The Master's Student Annual Report will be evaluated by the Department's Leadership Team, which includes the Department Chair, Division Director, and Graduate Director. Third and higher year students will be sent an announcement/reminder of this requirement every fall. There are two parts to the evaluation and review: a part completed by the student and a part completed by the student's Academic Advisor. Students determined to be making unsatisfactory progress will receive a letter from the Department Chair, which will provide steps necessary to improve progress towards degree.

CEPH Competencies and Learning Outcomes for the M.S. in Epidemiology

Mission

The mission of the Master of Science in Epidemiology is to prepare students for involvement in epidemiologic research that addresses the distribution and determinants of disease and other health conditions and behaviors promoting health.

Goals

Students will develop a working knowledge in epidemiologic methods and in identifying the determinants of disease and other health conditions. Students will gain skills conducting ethical population-based research, analyzing data, interpreting results of data analyses, and effectively communicating public health information and epidemiologic data both orally and in writing. Upon graduation, students will be competitive for doctoral programs and master's level trained positions in epidemiology available at state health or governmental health departments, clinical, private industry, or university settings.

The epidemiology competencies (CEPH) or learning outcomes (SACS) are:

1. Formulate research questions and develop evidence-based hypotheses that are testable with quantitative data.
2. Develop protocols for primary data collection and for documentation of secondary data analyses.
3. Synthesize and critically evaluate public health literature.
4. Choose and apply appropriate quantitative analysis methods to answer a specific research question using a public health dataset.
5. Communicate epidemiological findings effectively in oral and written formats.
6. Demonstrate proficiency in at least one software package (SAS, R, etc.) to manage a public health dataset.
7. Demonstrate proficiency in quantitative analysis of health disparities and health inequities.

Degree Requirements for M.S. in Epidemiology

Summary of Degree Requirements for M.S. in Epidemiology

SPH Core	3 hours
Department Core	22 hours
Major Courses	9 hours
Electives	3 hours
<u>Thesis</u>	<u>6 hours</u>
Total	43 hours

School of Public Health Core (3 hours)

PUBH 700 (3) Perspectives in Public Health

Department Core (22 hours)

EPID 701 (3) Concepts and Methods of Epidemiology
EPID 741 (3) Intermediate Epidemiologic Methods
EPID 721 (2) Clinical and Population Research Protocol Development and Implementation
EPID 722 (2) Scientific Writing and Critical Review of Epidemiologic Literature
BIOS 701 (3) Concepts and Methods of Biostatistics
BIOS 757 (3) Intermediate Biostatistics
BIOS 754 (3) Discrete Data Analysis
BIOS 709 (1) Introduction to SAS
BIOS 714 (1) Data Management for Public Health
BIOS 719 (1) Advanced SAS

Major Courses (9 hours)

EPID 788 (3) Practical Methods in Secondary Data Analysis

Plus any two of the following:

EPID 542 (3) Global Health Epidemiology
EPID 661 (4) Parasitology
EPID 730 (3) Public Health Surveillance Systems
EPID 744 (3) Cardiovascular Disease Epidemiology
EPID 746 (3) Cancer Epidemiology
EPID 749 (3) Infectious Disease Epidemiology
EPID 763 (3) Nutritional Epidemiology
EPID 765 (3) Reproductive Epidemiology
EPID 767 (3) GIS and Public Health Applications
EPID 768 (3) Psychiatric Epidemiology
EPID 770 (3) Social Epidemiology
EPID 777 (3) Genetic Epidemiology
EPID 790 (3) Independent Study
EPID 794 (3) Special Topics in Epidemiology
EPID 830 (3) Seminar on the Epidemiology of Aging
EPID 869 (3) Clinical Effectiveness

Electives (3 hours)

Electives are chosen from courses in the University that support the overall educational goals of the student. The Academic Advisor must approve all elective courses. Typically, the elective course is chosen from the list above, in addition to the two major courses.

Thesis (6 hours)

EPID 799 (6) Thesis Preparation

M.S. Epidemiology Course Sequence

Course Number	Course Name	Credit
FALL Year 1		
EPID 701	Concepts and Methods of Epidemiology	3
BIOS 701	Concepts and Methods of Biostatistics	3
BIOS 709	Introduction to SAS	1
BIOS 714	Data Management for Public Health	1
Fifth Course	EPID content course (must meet pre-reqs), elective course outside department, or PUBH 700*	3
Fall Year 1 Total		11
Spring Year 1		
EPID 741	Intermediate Epidemiologic Methods	3
BIOS 757	Intermediate Biostatistics	3
Third Course	EPID content, elective, or PUBH 700*	3
Spring Year 1 Total		9
Summer Year 1		
PUBH 700 (3) (optional)	PUBH 700 (suggest taking over summer)	3
EPID 799 (1) (optional)	can also begin work on thesis with approval from Thesis Advisor	1
Summer Year 1 Total		4
Total Credits Year 1 (including summer)		24
Fall Year 2		
EPID 788	Practical Methods in Secondary Data Analysis	3
EPID 722	Scientific Writing and Critical Review of Epidemiologic Literature	2
BIOS 754	Discrete Data Analysis	3
BIOS 719	Advanced SAS	1
EPID 799	Thesis – suggest 1 credit	1
Fall Year 2 Total		10
Spring Year 2		
EPID 721	Clinical and Population Research Protocol Development and Implementation	2
EPID 799	Thesis. If graduating in May, take remaining 4 credits; otherwise, take 1 to 3 credits.	4
Third Course	EPID content, elective, or PUBH 700*	3
Spring Year 2 Total		9
Total Credits Year 2		19
TOTAL Credits		43

*PUBH 700 is also offered as a summer course

M.S. Epidemiology Master's Thesis

Purpose of the Master's Thesis

All M.S. students must complete a research project culminating in a thesis. The purpose of the master's thesis is to apply the principles and methods learned during coursework and demonstrate competence in basic epidemiologic research. Students are NOT expected to do primary data collection. At the end of the thesis, the student should be able to demonstrate the ability to:

- Develop one aim/testable research question of public health significance,
- Review the current literature as context for the research question,
- Describe the research design and analytic strategy,
- Conduct analyses appropriate for the research question,
- Clearly present the results,
- Draw appropriate inferences based on the results, and
- Discuss the findings in context of current knowledge and implications for public health and future research.

Thesis Chair and Mentor/Mentee Relationship

The student, in consultation with the Academic Advisor, will select a Thesis Chair from the epidemiology division faculty. The selection of the Thesis Chair should reflect the student's area of research interest. If the faculty member is unable to serve, the student and Academic Advisor will determine another suitable faculty member. The Thesis Chair is primarily responsible for advising and mentoring the student throughout the thesis. The mentor/mentee relationship between the Thesis Chair and the student, similar to the relationship between advisor and advisee, depends on good communication skills and mutually agreed upon expectations. The topics which should be covered in the first or second meeting include, but are not limited to:

- Preferred method of communication (e.g. telephone, email, walk-in, sign-up, etc.)
- Frequency of meetings
- Who is responsible for scheduling meetings
- How the Thesis Chair will communicate which of their suggestions are recommendations, and which are requirements

Thesis Committee

Students are encouraged to start thinking about possible thesis topics and thesis committee members during year one. The Thesis Chair and student will work together to identify additional members of the thesis committee. The student is expected to be actively involved in assembling the committee, asking each prospective faculty member if they would be willing to serve. The committee will generally consist of the Thesis Chair, who is an epidemiology faculty member, and two

other members whose interests are related to the student's research goals. The two other members must include one biostatistician/methodologist and can include one person from outside the department. More than half the committee members must be faculty members in the Department of Epidemiology and Biostatistics. Additional members (beyond the Thesis Chair and two others) having special expertise may serve at the student's and Thesis Chair's discretion with the Graduate Director's approval. A memo providing justification for a fourth member must be submitted to the Graduate Director prior to approval. Once the committee members are finalized, the student completes a Master's Thesis Committee Appointment Form (see appendix) and submits it to Graduate Director for approval. **The Master's Thesis Committee Appointment Form must be approved by the Graduate Director prior to the Master's Thesis Proposal Defense.**

Thesis Hours: Registration and Grading

Students can register for thesis credit hours (EPID 799) only if approved by the Thesis Chair and only when actively working on the thesis. A total of six thesis credit hours are required for graduation. If a student completes the requisite six thesis credit hours and has not defended/submitted the thesis, the student must register for one additional thesis credit hour during each semester they are working on the thesis. Contact the Program Coordinator to be assigned to a thesis section.

At the end of the semester, students enrolled in thesis hours (EPID 799) receive a grade (T/U) based on their progress made during the semester. Expectations for what constitutes "adequate progress" each semester should be agreed upon by both the student and Thesis Chair before the semester begins. The grade 'T' equates to 'pass' on your transcript, and the student receives credit for the hours for which they were enrolled. A 'U' indicates 'unsatisfactory progress' was made during the semester, and the student earns zero credits for the semester. A grade of 'U' is equivalent to a grade < 'B'. Thesis grades are not part of your GPA calculation.

IMPORTANT: Incompletes cannot be issued for thesis hours (Office of the Registrar).

Human Subjects/IRB Approvals

Students may need to obtain IRB approval for their thesis research and should consult with the Thesis Chair about all questions related to ethical issues and human subjects research. Students will need to complete human subjects training by registering and completing the CITI online course using their USC email address for registration. All thesis research involving human subjects must be reviewed and approved by the appropriate ethics review committee. Research qualifying for exemption (typically secondary data analysis of existing data, observational studies with adults, or evaluation of service/public activities) should be approved by the SPH Institutional Review Board Liaison. The IRB application must be completed online at <http://orc.research.sc.edu/irb.shtml>. It will be necessary to register the first time you enter the site. Some projects must also be approved by the review committee at the agency where the research is conducted. **Any necessary approvals must be obtained prior to beginning work on the defined thesis tasks.** Some thesis activities related to an ongoing research project may be covered under that project's IRB approval.

This should be discussed with the project principal investigator and/or Thesis Chair. In most situations, notification of the IRB or IRB liaison of a change in protocol is sufficient.

Thesis Proposal

Each student is expected to select a scientifically relevant, feasible topic, based on a fully developed rationale that addresses its scientific and/or public health merits. The student and Thesis Chair may wish to schedule a pre-proposal committee meeting. The purpose of this meeting is to obtain the committee's input and consensus before beginning work on the thesis proposal. Your Thesis Chair may require the following: after discussing a proposed thesis topic, the student will prepare a brief preliminary proposal (one-pager) that includes a brief rationale for the study, a clear statement of the proposed topic, and reasonable detailed methodology to be used.

The student **must prepare a written thesis proposal and conduct a presentation** to the thesis committee for approval. The student drafts the chapters which are sent to the Thesis Chair for review. The drafts are returned to the student for revision (may occur several times). Students should allow ample time for review of initial draft(s) of the Thesis Proposal by their Thesis Chair and revisions. The student consults with the other committee members as needed. After a draft of the thesis proposal is approved by the Thesis Chair, the student distributes it to the thesis committee and a Thesis Proposal Defense is scheduled. NOTE: Manuscripts for inclusion in thesis cannot be submitted for publication or published prior to thesis proposal defense.

The thesis proposal should include the hypothesis to be tested, the proposed study design and rationale, an analysis plan, and potential implications of the anticipated results. The thesis proposal structure is as follows:

1. Title Page and Table of Contents
2. List of tables, figures, and abbreviations
3. Thesis Abstract
4. Chapter One Introduction – about three to five pages, includes one aim
5. Chapter Two Literature Review – about 15-30 pages
6. Chapter Three Methods – about 10-20 pages
7. References

Thesis Proposal Defense

The student schedules the proposal defense (60-90 min) at a time when all committee members can attend. The proposal defense cannot be within three months of the thesis defense. For proposal defense, student presents to the committee orally, followed by the oral defense. The student presents on the one aim/research question, which includes the background/significance, literature review, and methods. The thesis must be feasible to complete within the normal time for degree completion.

After the Thesis Proposal Defense has concluded, the thesis committee will either approve the proposal without changes, approve the approval pending revisions, or not approve the

proposal. Students have two attempts to successfully defend their thesis proposal. If a student does not pass on the second attempt, the student is released from the program. Data analyses must not begin before final approval of the thesis proposal by the thesis committee.

Thesis Phase

The student meets regularly with the Thesis Chair to review progress (meetings set by student). The Thesis Chair will provide guidance and feedback regularly on methods and interpretation of results during the data analysis and writing phase. The student drafts chapters which are reviewed by the Thesis Chair. The format of the written thesis must be consistent with The Graduate School requirements and guidelines. Typically, the thesis consists of the first three chapters developed for the thesis proposal, plus two additional chapters describing results and discussion/conclusions which includes, among other things, critical appraisal of the research and comparison of study results with the existing literature. The student will consult with other committee members as needed. After approval from the Thesis Chair, the student will share the written thesis with the thesis committee and schedule the time for the thesis defense (see Deadlines below). For planning purposes, note that the final thesis draft should be submitted to the committee at least 30 days prior to the end of the semester or at least two weeks prior to the thesis defense, whichever is earlier (see Thesis Defense and Thesis Deadlines below).

It is the student's responsibility to ensure that the format of the written thesis is consistent with The Graduate School requirements and guidelines. Students should discuss authorship expectations on any publication with the Thesis Chair and Thesis Committee, including expectations and changes in authorship order if the publication is not completed by the student during the agreed upon post-graduate timeline.

Thesis Defense

The student is responsible for scheduling the thesis defense at a mutually agreed upon time for all committee members and should be scheduled for about 60-90 minutes. The student should notify the Program Coordinator at least one week in advance of defense so that advertisement can be posted publicly.

The thesis defense consists of the full thesis, which the student sends to all committee members at least two weeks prior to the defense, and the thesis defense presentation. The thesis defense presentation should follow the thesis structure of Introduction, Aims, Methods, Results, Discussion (i.e. student should not only present what they did and their results, but also put it in context with the rest of the field and demonstrate a knowledge of other relevant literature in their field).

One of three decisions may be reached at the end of the Thesis Defense: 1) pass, 2) conditional pass, with certain required changes needing to be made within a specified time frame, or 3) fail. If a student receives a conditional pass, the committee will provide the student a written list of revisions. The student will have 15 days to correct the deficiencies and resubmit the report. If the committee assesses the resubmission to be adequate, the

student will receive a passing grade. Otherwise, the student will receive a failing grade and will have to repeat the defense.

Thesis Deadlines

The complete thesis must be read, critically evaluated, and approved by all members of the thesis committee. In accordance with [Graduate School guidelines](#), the following deadlines must be met.

- a. The Thesis Proposal Approval Form must be signed by the Thesis Chair and thesis committee members. The Thesis Proposal Defense Rubric should be signed by the Thesis Chair. Both signed forms should be submitted to the Graduate Director. The thesis proposal presentation should be no less than three months prior to the thesis defense.
- b. At least a couple of months before graduation, the thesis draft should be submitted via the electronic thesis and dissertation (ETD) process to The Graduate School for preliminary thesis format check. You can view the format guide, ETD samples, and templates and submit your document at the [Thesis & Dissertation portal](#). The Graduate School holds ETD workshops every semester. Students are responsible for making sure the thesis meets The [Graduate School's requirements](#).
- c. **A first draft of the final thesis should be submitted to the Thesis Chair at least one month before the thesis defense or by a date specified by the Thesis Chair. (See Timetable)**
- d. **The final thesis draft is to be submitted to each thesis committee member at least 30 days prior to the end of the semester (see Timetable for approximate dates) or at least two weeks prior to the thesis defense, whichever is earlier.**
- e. The thesis defense should be scheduled well in advance to account for all members of the thesis committee's schedules. Announcements of the thesis defense presentation should be posted at least one week prior to the defense date by sending a notification to the Program Coordinator including student's name, title of presentation, date, and room number; the thesis defense should be scheduled in an available classroom or conference room or virtually if agreed upon by the Thesis Chair and Thesis Committee. Contact the Program Coordinator to coordinate the announcement and the scheduling of the room.

There are two phases of the thesis defense: public presentation and oral exam. The candidate must publicly present the thesis in a 30-45-minute presentation. Following this, the candidate will take questions from the audience. After questions have been asked and answered, the thesis chair will dismiss the audience, and the candidate and their thesis committee will remain for the oral exam portion of the defense. The candidate must pass an oral examination, which shall be administered immediately following the presentation and evaluated by the thesis committee. The oral examination will focus on the technical and scientific aspects of the thesis topic and may cover any subject matter relevant to the student's field of study. The committee

members will give one set of scores after discussing and reaching a consensus.

If a student receives a conditional pass the committee will provide the student a written list of revisions. The student will have 15 days to correct the deficiencies and resubmit the report.

Once the student has successfully passed the thesis defense, all thesis committee members must approve the final version and provide original signatures on the [Thesis Signature and Approval \(TSF\) form](#). The hard copy of the signed form, **with original** signatures‡ is submitted to the Graduate Director. Multiple copies of this form can be used for those committee members who are out of the country provided all completed forms are returned to the Graduate School with original signatures (see the Graduate Director if you have questions). If the student, with committee approval, should wish to publish a manuscript from their thesis, a letter requesting delayed release (embargo) of dissemination must accompany the TSF, signed by the student's Thesis Chair and Graduate Director. Epidemiology master's students typically request a one-year embargo.

‡ The Graduate School is currently accepting electronic signatures in lieu of original signatures due to the necessity of virtual defenses. Please contact your Graduate Director prior to your defense to determine whether electronic signatures are still acceptable.

- f. The student should provide each thesis committee member a PDF copy of the thesis as submitted to The Graduate School or in a manner agreed upon by the committee member. Final approval is given by The Graduate School via the ETD process. The final approved thesis must be submitted via the ETD process no later than 20 days before graduation.
- g. Specified deadlines may be shortened if approved by the Thesis Chair.

Approximate Thesis Milestone Deadlines for Graduation in May, August, or December

IMPORTANT: Please note that these dates are only approximations of the actual dates. It is your responsibility to check the Graduate School calendar for actual dates.

Task	For graduation in		
	May 2027	August 2027	December 2027
Selection of Thesis Chair and thesis topic	1 st Year, Summer	1 st Year, Summer	2 nd Year, Fall
Selection of thesis committee	1 st Year, Summer	1 st Year, Summer	2 nd Year, Fall
Literature review, drafting thesis proposal	1 st Year, Summer	2 nd Year, Fall	2 nd Year, Fall-Spring
Thesis proposal defense (must be at least three months prior to thesis defense)	2 nd Year, Fall	2 nd Year, Mid to Late March	2 nd Year, Early August
First complete version of thesis to committee (at least two weeks prior to final thesis defense)	2 nd Year, End of February	2 nd Year, Early June	3 rd Year, Early October
Thesis format check via ETD	2 nd Year, End of February	2 nd Year, Early June	3 rd Year, Early October
Latest suggested thesis defense date; do not wait until the last day to defend	2 nd Year, Late March	2 nd Year, Late June	3 rd Year, Late October
Thesis defense deadline	2 nd Year, Early April	2 nd Year, Early July	3 rd Year, Early November
Final submission of thesis approved by committee and submitted via ETD	10 days after final defense deadline (3 rd week Apr)	10 days after final defense deadline (3 rd week July)	10 days after final defense deadline (3 rd week Nov)

Master's Thesis FAQs

When should I start working on my master's thesis?

The process can begin informally as soon as the student starts the program. Students are encouraged to discuss ideas with their Academic Advisor and other department faculty. Attending seminars offered by the department, research centers/institutes, and by the university to learn about the research of faculty members or emerging topics in the field may help students develop a topic. Other ways to begin the thesis include reading and researching topics that you find interesting and/or working as a graduate research assistant.

Should I collect my own data for the master's thesis?

No! Master's students are not expected to undertake their own original research because it may be difficult to complete original research within the time frame of a master's program. Students are strongly encouraged to use data already available.

How can I find a dataset to analyze for my master's thesis?

There are several publicly available datasets (e.g., BRFSS, NHANES, and NHIS). Additionally, students may be granted access to a faculty member's research data. However, written permission from whoever controls that dataset and necessary IRB approval must be obtained. Talk with your Thesis Chair about available datasets for the thesis.

What are the roles of the thesis committee members?

The Thesis Chair has the primary responsibility for advising you throughout the entire thesis process. This includes helping you to form the thesis committee, providing close guidance and feedback (i.e., help to refine research question, identify sources of data), chairing committee meetings, helping you troubleshoot issues, and helping to develop high quality thesis drafts. The other thesis committee members may advise on designing the project, analysis of data, and interpreting the results. These members may also provide comments, lend expertise on the development of your thesis, and review drafts.

What are acceptable research studies for an epidemiology thesis?

There are several types of research that are acceptable for the epidemiology thesis. The most common research approach is a study of determinants of disease, i.e., testing one or more hypotheses about the relationship between exposure(s) and health-related outcome(s). Other acceptable formats include validation of a measurement or screening test and a formal systematic review or meta-analysis.

Am I required to publish my master's thesis?

Publishing the master's thesis is not a requirement for earning the master's degree. However, the thesis should be of sufficient quality to serve as the basis for publication in a

peer-reviewed journal (a master's thesis will usually contain substantially more detail than is appropriate for journal publication). As a department committed to the highest levels of scholarship and to your professional well-being, we encourage publication of your master's thesis. Regardless of your career path, first authorship on a peer-reviewed publication speaks to the quality of your thesis research and will open doors in the public health practice and research settings. You are encouraged to discuss this issue with your Thesis Chair.

How many pages is the thesis proposal? The thesis?

There are no uniform requirements for this – it varies greatly from student to student and depends on the nature and scope of the project proposed. Students are encouraged to read theses of students who have graduated from the department to get an idea as to the scope and length. You can access these using the 'Dissertations and Theses Global' Database on the [library website](#).

Does the department require a specific reference style?

No. Students may choose from any number of reference styles, provided their Thesis Chair approves the choice. Typical reference styles include but are not limited to APA, AMA, Chicago, Vancouver, MLA, and Harvard. Students are encouraged to use a reference management program, such as Mendeley, Zotero, or Endnote.

Maternal and Child Health Certificate in Graduate Studies

Overview

The Maternal and Child Health Certificate in Graduate Studies (MCHC) is a 15-credit hour certificate program open to anyone who is post-baccalaureate and wishes to extend their knowledge of the health and wellbeing of mothers, children, and families. Through course content and mentorship, students will learn about Maternal and Child Health (MCH) foundational knowledge, research, and practice and how theories and evidence translate into practice. Students will develop skills necessary to be leaders in the MCH workforce and to communicate with all persons of diverse groups. For more information about this certificate program, please contact the MCHC Program Director.

Competencies

The six competencies listed below are covered and evaluated in the three core classes. These competencies reflect the knowledge and skills students will require to be an active member of the MCH workforce. Upon successful completion of the coursework, students will be able to:

1. **Foundational knowledge:** Recognize and describe the scope of maternal and child health (MCH) and critically analyze determinants of health of persons having and/or raising children, children, adolescents, and families at various socio-ecological levels across the life course.
2. **Practice:** Demonstrate capacity to respond to evolving MCH issues, include and integrate MCH populations from diverse backgrounds, evaluate existing strategies, and implement MCH programs by working with communities and federal, state, and local agencies and systems.
3. **Research:** Apply quantitative and/or qualitative research methods to examine and address issues related to the health and well-being of MCH populations.
4. **Policy:** Assess MCH policies and devise evidence-based policy recommendations by critically analyzing existing theories and evidence.
5. **Cultural competency:** Develop knowledge and skills necessary to communicate and interact effectively with all persons from diverse groups.
6. **Leadership:** Communicate, collaborate, and coordinate MCH research, policy, and practice by incorporating family-centered, community-based, equity-focused, and interdisciplinary concepts and strategies.

Program Requirements

The MCHC requires 15 credit hours, of which up to 12 credits may be shared with a concurrent USC degree program. Students are required to take three three-credit core courses (nine credit hours total), which provide content and assessments for the six

HSPM 775	Managerial Epidemiology and Statistics in Healthcare
HSPM 818	Economic Evaluation and Policy Analysis of Health Services
HSPM 846	Advanced Study in Health Policy Management II
PUBH 700	Perspectives in Public Health
PSYC 749	Principles of Human Diversity ³
SOCY 755	Social Structures and Inequality ³
SOCY 775	Medical Sociology
SOWK 722	Social Work Practice w/ Individuals, Families, & Small Groups

Research Methods and Data Analysis	
Course Number	Course Title
EPID 788	Practical Methods for Secondary Data Analysis
EPID 767/867	GIS and Public Health Applications
EXSC 787	Research Methods and Design for Exercise Science
HPEB 715	Qualitative Research Methods in Public Health
HPEB 815	Theory-driven Analysis ^{2,3}
HSPM 805	Health Services Research Design
HSPM 719	Health Services Research Methods II
SOCY 749	Selected Topics in Demography: Intro to Research Themes
NURS 811	Advanced Methods and Analysis in Nursing Science ³

¹Taught with focus on the social determinants of health

²Open for HPEB doctoral students only

³With Instructor permission

MCH Faculty Mentor

Upon acceptance, each student is assigned a faculty member with expertise in MCH who will serve as your MCH Mentor. Your MCH Mentor will assist you in making the most of your MCHC experience.

Program of Study

The Program of Study lists all courses used to fulfill degree requirements and is developed jointly by the student, MCH Faculty Mentor, and MCH Certificate Program Director. It must be approved and signed by the student, MCH Faculty Mentor, and MCH Certificate Program Director, then submitted to the Graduate School. Refer to the Program Requirements to ensure all required courses are included.

Academic Standard for Progression

All graduate students are subject to the academic policies, regulations, and academic standards of both the Graduate School and the department, school and/or college in which enrolled.

At the time of graduation, the student's cumulative grade point average (GPA) must be at least 3.00. Additionally, the student's average on all grades recorded on the program of study for courses numbered 700 or above must be at least 3.00 and all courses listed on the program of study must be at least 3.00 on (a) all USC graduate coursework, (b) all courses listed on the program of study, and (c) all courses numbered 700 and above listed on the program of study.

Careers

The MCHC equips students with skills to become professionals for positions in governmental and non-governmental public health organizations serving women, infants, and children at local, regional, and national levels.

For additional information about application process and MCH faculty mentors, visit the MCHC [website](#).

Ph.D. in Epidemiology

Mission

The mission of the PhD in Epidemiology is to prepare students, through quality lectures, practical experiences, and other research opportunities, for involvement in teaching and independent and collaborative epidemiologic research; and to train students to become researchers to teach and to pursue original research for investigating health conditions.

Goals

Students will develop comprehensive knowledge in epidemiologic methods, applied biostatistics and at least one content area of epidemiology. Students will develop advanced skills in designing and conducting ethical population-based research, analyzing complex data, interpreting results of in-depth data analyses, effectively communicating results to scientific and lay audiences both orally and in writing, teaching, and grant writing. Upon graduation, our students will have a solid foundation in epidemiologic research to improve health and be competitive for positions as postdoctoral fellows, principal investigators, instructors, and leading epidemiologists to be employed by organizations in academia, government (state or federal), private industry, or clinical settings.

CEPH Competencies and Learning Outcomes for the Ph.D. in Epidemiology

The epidemiology competencies (CEPH) or learning outcomes (SACS) are:

1. Demonstrate in-depth expertise in at least one substantive content area of epidemiology,
2. Formulate hypotheses of scientific significance and design a study employing appropriate epidemiologic methods to address the hypotheses,
3. Apply knowledge of relevant mechanistic pathways (e.g., physiological, genetic, behavioral, and social) to advance understanding of disease etiology,
4. Critically appraise epidemiologic studies for internal and external validity and develop skills to synthesize published epidemiologic evidence,
5. Apply a broad range of advanced statistical approaches to analyze epidemiological data,
6. Apply the methods and principles of sound epidemiologic and ethical practice (including those related to data collection, processing, management, documentation, and security) in the design and conduct of epidemiologic research,
7. Demonstrate the ability to prepare a competitive research grant application in the format specified by relevant government agencies and/or private foundations,
8. Effectively communicate epidemiologic concepts, methods, results, and implications to diverse audiences in oral and written formats, and
9. Effectively teach epidemiologic concepts and methods.

Doctoral Program Milestones Checklist

Draft a Doctoral Program of Study

Form an Advisory Committee (Faculty Advisor and Graduate Director) during the first term of enrollment. In collaboration with the Advisory Committee, draft a Doctoral Program of Study (DPOS) during the first term of enrollment.

Submit Formal DPOS

Once approved by the Advisory Committee, submit the DPOS to the Graduate Director no later than May of Year One for submission to Graduate School. Any changes to the DPOS form must be submitted using the Program of Study Adjustment Form (POSA) at a later stage.

Qualifying Exam

When eligible, register to take department specific qualifying exam. Admission to doctoral candidacy requires passing the qualifying exam, having an approved DPOS, and must be one full academic year prior to graduation.

Doctoral Committee Appointment Request (G-DCA)

This allows the student to form the dissertation committee. This committee would also conduct the comprehensive examination.

Dissertation Proposal

The defense of the dissertation proposal must take place least *six months prior* to the dissertation defense. After successful completion of proposal defense, submit the PhD Dissertation Proposal Form to the Graduate Director.

Doctoral Comprehensive Exam

To be completed at least 60 days before the date of graduation. The Doctoral Comprehensive Verification Form must be completed and submitted to the Graduate Director. EPID students have different options for the comprehensive exam. Please see page 95.

Graduation Application (Form AS-126)

Must be submitted no later than 15 days after the first day of the term in which candidate expects to graduate.

Dissertation Format Check

Dissertation must be submitted to the Graduate School via ETD Process at least one week prior to final format check deadline.

Dissertation Draft

A complete draft of the dissertation needs to be submitted to the entire dissertation committee at least 15 business days before the scheduled date of the dissertation defense.

Dissertation Defense and Final Submission

Defense must occur at least one week prior to final dissertation submission. An announcement must be posted and sent out on the EPID-BIOS listserv at least one week prior to defense. Final dissertation must be submitted to The Graduate School no later than 20 days before date of graduation.

Important Forms

See Forms on page 118 for links to online forms.

Forms for doctoral program	Time of completion	Location
Advisement Form	Each semester	Graduate Student Services
Request for Transfer Credit Form (G-RTC)	Prior to submission of Doctoral Program of Study	Graduate School
Doctoral Program of Study	By end of first year	Graduate School
Doctoral Committee Appointment Request	When Committee membership is known	Graduate School
Teaching Practicum: Requires Independent Study Contract & Teaching Practicum Contract	Prior to registering for Teaching Practicum	G-ISC – Graduate School TP Contract – Department
Teaching Practicum Evaluation	Upon completion of practicum	Department
Consulting Practicum: Requires Independent Study Contract & Consulting Practicum Contract	Prior to registering for Consulting Practicum	G-ISC – Graduate School CP Contract – Department
Consulting Practicum Evaluation	Upon completion of practicum	Department
Dissertation Proposal Defense Form and Grading Rubric	Upon completion of proposal defense (take to defense)	Department
Doctoral Comprehensive Exam Verification	After completion of comprehensive exam	Graduate School
Program of Study Adjustment Form (POSA)	If courses taken diverge from original program of study	Graduate School
Dissertation Signature and Approval Form (DSF) & Grading Rubric	After completion of defense	DSF – Graduate School Rubric – Department
Delayed Embargo Request	After completion of defense – send with DSF to Graduate School	Department
Graduation Application	Early in semester of graduation	Self-Service Carolina

The Graduate School is currently accepting electronic signatures in lieu of original signatures due to the necessity of virtual defenses. Please contact your Graduate Director prior to your defense to determine whether electronic signatures are still acceptable.

Degree Requirements for Ph.D. in Epidemiology

Coursework for the Ph.D. in epidemiology assumes that the applicant has taken sufficient courses in the biological or social sciences and has solid preparation at the master's level in epidemiology. For students holding a master's degree in a discipline other than epidemiology, additional preparatory course requirements will be set by the Academic Advisor, in consultation with the Graduate Director and Admissions Committee. At a minimum, applicants must master the content and skills taught in the following master's level courses: [EPID 701](#), [BIOS 701](#), [EPID 741](#), [BIOS 757](#), and [BIOS 709](#). Upon review of student's credentials and their career aspirations, additional courses may be required.

Summary of Minimum Degree Requirements for Ph.D. in Epidemiology

Public Health Core	3 hours
Department Core	18 hours
Biostatistics Courses	9 hours
Dissertation	<u>12 hours</u>
Total	42 hours (minimum)

Public Health Core (3)

PUBH 700 (3) Perspectives in Public Health (students with M.P.H. substitute an elective)

Department Core (18 hours)

EPID 800 (3) Advanced Methodological Theory in Epidemiology
EPID 801 (3) Advanced Analytic Methods in Epidemiology
EPID 802 (3) Grant Writing
EPID 845 (3) Doctoral Seminars A, B, C (1 credit per semester for 3 semesters)
EPID 890 (3) Independent Study (Teaching Practicum)
EPID 890 (3) Independent Study (Consulting Practicum)

Biostatistics Courses (9 hours) (first three courses are recommended)

BIOS 754 (3) Discrete Data Analysis
BIOS 755 (3) Introduction to Longitudinal Data Analysis
BIOS 761 (3) Survival Analysis
BIOS 760 (3) Biostatistical Methods in Clinical Trials
BIOS 780 (3) Introduction to Quantile Regression
BIOS 890 (1-3) Independent Study
BIOS 894 (3) Special Topics in Biostatistics

Dissertation (12 hours) EPID 899 Dissertation Preparation

Epidemiology Courses (optional, upon recommendation of Advisor and Graduate Director)

EPID 661 (4) Parasitology
EPID 730 (3) Public Health Surveillance
EPID 746 (3) Cancer Epidemiology
EPID 749 (3) Infectious Disease Epidemiology
EPID 763 (3) Nutritional Epidemiology
EPID 767 (3) GIS and Public Health Applications
EPID 768 (3) Psychiatric Epidemiology
EPID 770 (3) Social Epidemiology
EPID 788 (3) Practical Methods for Secondary Data Analysis
EPID 805 (1 or 3) Introduction to Systematic Reviews and Meta-analysis
EPID 844 (3) Advanced CVD Epidemiology: Evidence Synthesis & Evaluation

- EPID 861 (3) Fundamentals and Applications of Translational Science (required for BBIP trainees)
- EPID 865 (3) Methods in Reproductive and Perinatal Epidemiology
- EPID 867 (3) Geographic Information Systems for PUBH Research
- EPID 869 (3) Clinical Effectiveness
- EPID 877 (3) Advanced Methods and Concepts in Nutritional Research
- EPID 890 (1-3) Independent Study
- EPID 894 (3) Special Topics in Epidemiology

Electives (optional) Electives may be chosen from other courses in the University that support the student's overall educational goals. The Faculty Advisor must approve all elective courses.

Note that BBIP training grant students take four courses designated by the BBIP training program in sequence during their first two years of their program.

Advisement and Progression Information

Academic Advisor

During the admissions process, all students choose an epidemiology faculty member to serve as their mentor; this faculty member is then assigned to be their Academic Advisor. The Academic Advisor generally will work with the student throughout their degree program although some students may choose to have their dissertation chair be their Academic Advisor near the end of their program. Students are advised as to appropriate courses, sequencing of courses, independent study topics, dissertation topic, consulting and teaching practicum, and any additional work appropriate for preparing the student to meet career objectives. Students may ask the Graduate Director for a change of Academic Advisor for a variety of different reasons; students are encouraged to speak with the Graduate Director well in advance if contemplating a change.

Clear and consistent communication is essential to a purposeful Advisor/Advisee relationship. Academic Advisors and their advisees should set mutual expectations at their first meeting, which provides the framework for a stable working relationship during the student's program. Topics to be covered beginning at the first meeting include:

- Preferred method of communication
- Frequency of meetings
- Who is responsible for setting up meetings
- How the Academic Advisor will communicate which of their suggestions are recommendations and which are requirements

Advisement

Students meet with their Academic Advisor before each semester to fill out an advisement form. In the Academic Advisor's absence, the form can be signed by the Graduate Director. This form must be filled out and either turned in (PHRC 108) or emailed (sphstsr@mailbox.sc.edu) to the Office of Graduate Student Services (GSS) before a student can register for classes. GSS will check for any holds on a student's registration. Once all holds have been cleared, GSS will email the approved advisement form to the student at which time they can register online for classes. Students should be sure to include their email address on the advisement form.

Doctoral Program of Study (DPOS)

Within the first year of enrollment, the student will form a Doctoral Advisory Committee. This committee will have two or more members, usually the student's Academic Advisor and the Graduate Director. This committee will help draft the student's Program of Study.

The approved Doctoral Program of Study (DPOS) must have a minimum of 42 hours post-master's credit hours, including 12 hours of EPID 899 – Dissertation Preparation.

A doctoral student, in consultation with the Advisory Committee, must submit a DPOS to the Graduate Director by May 31st of year one. Each page of the form must be signed by the student, student's Academic Advisor, and the Graduate Director prior to submission to The Graduate School for approval. Doctoral program of study approval is required for official candidacy.

Epidemiology doctoral students can use the degree requirements listed above to assist them in completing the DPOS. Approved transfer credits are listed on the program of study (see Transfer Credit section below).

The following courses may be taken by doctoral students, but do not count towards a student's DPOS and cannot be listed on the DPOS: EPID 701, BIOS 701, EPID 741, EPID 721, EPID 722, BIOS 757, BIOS 709, BIOS 714, BIOS 719. Courses taken for undergraduate credit can never be on any program of study.

BBIP trainees must include all required BBIP coursework on their program of study. Further requirements of the DPOS can be found in The Graduate School Bulletin.

University of South Carolina courses at the 500 and 600 level (which can be graduate or undergraduate), and any other such courses taken at other institutions, may be acceptable if they are outside of the student's discipline but applicable to the student's area of study. For example, a 500-level statistics class for an epidemiology major or a 500-level geography course for a student working with geographic information systems (GIS) as part of the dissertation are acceptable.

Occasionally, changes are needed in the Program of Study. In this case, a Program of Study Adjustment Form (POSA) must be filed with The Graduate School. Extra courses which are not part of the degree requirements should not be listed on the Program of Study.

Transfer Credit

Students may transfer up to 12 credits from previous graduate coursework, provided the credits were not part of a completed degree program. Students wishing to transfer credits for inclusion on their program of study must complete a Request for Transfer Credit Form (G-RTC) for each course they wish to transfer. All requests must be accompanied by the course syllabus and be approved by the student's Academic Advisor, Graduate Director, and The Graduate School. To be listed on the DPOS, transfer courses:

1. Must have been completed at an accredited institution,
2. Resulted in a grade of "B" or better, and
3. Be within ten years preceding the date of doctoral graduation.

NOTE: Transfer credits older than 10 years earned at another institution **cannot** be revalidated for use on a program of study.

Academic Standing for Progression

Note: The departmental policy is more stringent than The Graduate School policy.

All graduate students are subject to the academic policies, regulations, and academic standards of both The Graduate School and the department, school and/or college in which enrolled. **Grades of “U” and/or grades below “B” on nine (9) or more graduate credit hours taken at the University within a ten-year period will result in the dismissal of the doctoral student from the Department of Epidemiology and Biostatistics Doctoral Program and disqualification for a graduate degree in Epidemiology or Biostatistics.** This rule applies to all graduate courses taken at the University of South Carolina whether or not they are included on the student’s Program of Study; it also applies to courses taken in two or more degree programs.

Annual Academic Review of Doctoral Students

Each doctoral student's academic progress is evaluated annually by the student's Academic Advisor and by the Department's Leadership Team, which includes the Department Chair, Division Director, and Graduate Director. An email announcement/reminder, letter from the Chair, and form is sent to each student every spring. There are two parts to the evaluation and review: a part completed by the student and a part completed by the student's Academic Advisor. All students receive a follow-up letter from the Department Chair indicating whether progress towards degree is satisfactory or unsatisfactory, including steps to improve progress, if warranted.

The annual report covers the following information:

1. Academic record including:
 - a) overall grade point average
 - b) any incomplete courses
 - c) transcript
 - d) overall progress toward completing the coursework phase of the program
2. Submission of an approved Doctoral Program of Study (including approved transfer credits if applicable)
3. Progress in completing or preparing for the Qualifying Exam
4. Discussion of progress in acquiring research experience (including citations for participation in conference presentations and peer-reviewed publications)
5. Discussion of teaching experience
6. Formation of dissertation committee and selection of dissertation chair
7. Development of the dissertation proposal and planning for presentation of the proposal
8. Timeline for dissertation defense and degree completion

Qualifying Examination for Epidemiology

Purpose

The intent of the Qualifying Exam is to measure potential for doctoral study and to assess the student's technical and professional knowledge. The examination will focus on study design and methodology issues and on content areas.

Timing

The Qualifying Examination is offered on the Friday before the beginning of each Fall Semester. Doctoral students who completed a master's degree in Epidemiology at the University of South Carolina or other universities are encouraged to take the Qualifying Examination following their first year in the doctoral program. Students admitted from M.P.H. programs or other degree programs may wait to take the Qualifying Examination until their second year of doctoral studies (all students are expected to take the exam no later than this). Students must have completed both EPID 800 and EPID 801 before taking the Qualifying Exam.

Registration

A student, in consultation with their Academic Advisor, must register with the Program Coordinator to take the Qualifying Examination upon request. If a student does not register or registers to take the Qualifying Examination and does not take it, this will count as one failed attempt unless the registration is canceled at least one week prior to the examination date due to emergency circumstances.

Exam Preparation

The exam is prepared by the Epidemiology Exam Committee, with assistance from other Epidemiology faculty. The examination will consist of two parts, for which all students will need to appear. The first part is in the morning, generally from 9:00 a.m. to 1:00 p.m., and the second part is in the later afternoon, generally 2:00 – 5:00 p.m., after a break for lunch. Both parts will be considered together to determine the overall performance on the examination.

The examination will focus on design and methodology issues and on content areas. Advanced material from EPID 701, EPID 741, EPID 800, EPID 801, and selected concepts from BIOS 701 and BIOS 757 may be reflected on the examination. The exam may include reading a published manuscript and responding to conceptual, design and methodological questions related to this publication or its subject matter. Students will be allowed to use a calculator, however no software can be used, and no further research can be done (e.g., via e-mail or the Internet). Students are given a sheet of standard formulas.

Grading and Results

Examinations are graded by multiple faculty members. Exam responses earning a score of 80% or above will be considered “Pass” and no oral examination will be required. Exam responses earning scores from 70-79% will be considered “Conditional Pass” contingent upon successful completion of an additional oral examination. The oral examination is conducted by at least three faculty members and focuses on areas of the written exam that may have been unclear, incomplete, or otherwise of concern. Following the oral exam, students will be determined to have either passed or failed the Qualifying Examination. Exam responses earning scores below 70% will be considered “Fail.” Students who fail the qualifying examination on the first attempt will receive feedback on gaps in mastery of material identified on the exam and will need to take the exam again.

Students taking the examination will be notified of the results by email as soon as possible after faculty evaluation. Faculty members will not discuss exam results with any individual student until all students have received official notification. A debriefing session will be held after examination results are released to students. Students may also meet with their Academic Advisor to discuss performance on the exam.

Each student is allowed two attempts at the Qualifying Examination. The qualifying exam retake is offered on the date listed in the table below. The scoring and administration of the second attempt will follow the same process as the first, including the oral examination for those scoring in the range 70%-79%. **If a student does not pass the examination on the second attempt, they will not be allowed to continue in the program.**

The Qualifying Examination schedule is listed in the following table for students matriculating into the doctoral program in Fall 2024:

	For students taking the exam following AY 25-26	For students taking the exam following AY 26-27
Qualifying†	August, 2026 (TBD)	August, 2027 (TBD)
Qualifying retake	December, 2026 (TBD)	December, 2027 (TBD)

† Friday before first day of class in Fall semester

Admission to Doctoral Candidacy

Taken from Doctoral Degree Requirements Admission to Doctoral Candidacy on the [Graduate School's website](#).

Upon nomination from the doctoral program, the Dean of The Graduate School considers students for admission to doctoral candidacy only after:

1. the student is fully admitted to the doctoral degree program by the academic unit,
2. passes the qualifying examination, and
3. submits an approved doctoral program of study to the Dean of The Graduate School.

No student is admitted to candidacy by the Dean of The Graduate School until after

completion of all three conditions and written nomination (letter signed by the department Chair and Graduate Director) is received from the academic program. The Graduate School will notify the student and the Graduate Director of the student's program when the student has been admitted to candidacy.

Note: Admission to candidacy must be granted at least one full academic year before the awarding of the degree.

Residency Requirement

Excerpts taken from Doctoral Degree Requirements on The Graduate School's website, which can be found at: <http://bulletin.sc.edu/content.php?catoid=76&navoid=2129>.

A residency requirement is intended to ensure that doctoral students benefit from and contribute to the full spectrum of educational and professional opportunities provided by working closely with the graduate faculty and other students at a research university. The Graduate Faculty of the University of South Carolina subscribe to the position that a residency requirement may be met in multiple ways, and that these ways may be unique to specific degree programs.

All graduate programs are expected to encourage, design, provide and monitor the means for doctoral students to acquire the knowledge, skills, attitudes, and values appropriate to their discipline through mechanisms that extend beyond mere course work. Regular attendance in courses to gain experience with specialized equipment and other scholarly materials and at seminars presented by scholars at The University of South Carolina and other invited guests is a beginning point. Additional experiences may include, but not be limited to, attending and presenting at professional conferences, participation in presentations of scholarly work, assisting with the conceptualization, and development and application for funding of scholarly efforts.

In the Department of Epidemiology and Biostatistics, doctoral students are required to meet their residency requirement as follows:

Option One. Two consecutive semesters of full-time enrollment. Full time enrollment is defined as enrollment for six credit hours for students with an assistantship and nine credit hours for students who are not graduate assistants; consecutive semesters could be fall/spring, spring/summer, summer/fall, or spring/fall. Programs are expected to provide enrichment opportunities beyond course enrollment to help doctoral students understand and meet the intention of the residency requirements.

Option Two. A proposal for an individual residency plan may be submitted to The Graduate School for consideration and action.

The student's Advisory Committee certifies on the doctoral program of study (**D-POS**) form the term dates and courses or other means by which the student satisfies the residency requirement. In the event unique circumstances arise, it may be possible for a student to meet the residency requirement through an individualized plan.

In the Department of Epidemiology and Biostatistics, dissertation and seminar hours (EPID 899 and EPID 845, respectively) do not count toward the minimum residency requirement.

Teaching Practicum

The teaching practicum focuses on pedagogical and practical issues related to teaching a course in epidemiology or biostatistics. Through the practicum, the student will serve as a junior colleague to the course instructor, and thereby gain experience in all aspects of teaching including session planning, conducting classroom teaching, assessment, and evaluation. The teaching practicum is a required three-credit course. Students register for the course as an Independent Study (EPID 890). The following methods courses are generally suitable for a student to do a teaching practicum (PUBH 724 and 725 and EPID 410, 700, 701, 741, 800, or 801). Other course placements require approval of the Graduate Director. Students must have completed EPID 800 and at least one year of doctoral coursework prior to registering for the teaching practicum.

To register for the course, the following are needed:

- Identify a course for the practicum. The Graduate Director will email students in March prior to the year of their practicum asking for their preference for the following academic year. The Graduate Director then facilitates the process considering course offerings, requirements of the instructors, and student preferences. The course instructor will serve as the practicum faculty advisor.
- Complete a teaching practicum contract (sample available from the Program Coordinator). The purpose of the contract is to define the objectives, scope, and responsibilities for the practicum experience. This is prepared in consultation with the practicum faculty advisor and student.
- Complete the Independent Study Contract (G-ISC) (sample available from Program Coordinator).
- Obtain the schedule code (CRN) and section for your practicum faculty advisor from the Program Coordinator.
- Obtain the following signatures on your G-ISC: student, academic advisor, and faculty advisor.
- Submit your G-ISC and contract to the Graduate Director who will review, sign, and submit to the Program Coordinator for processing.
- Register for the section of EPID 890 which has been assigned to you upon receiving approval.

During the practicum, the student will work with the faculty advisor as defined in the practicum contract. At the end of the practicum the student will be evaluated using the Teaching Practicum Evaluation. The final grade is calculated by the practicum faculty advisor using the evaluation.

Consulting Practicum

Note: This is different from the consulting practicum for M.P.H. students. Documentation for that consulting practicum is on the school's [website](#).

The objective of this course is to provide the student with an opportunity to apply skills learned in the program to a real-world experience by collaborating with an outside health institution. Typically, the consulting practicum consists of assisting the external department or agency with deliverables needed such as designing a study, writing a study protocol, analyzing data, writing reports, database development, etc. External organizations may consist of agencies such as DHEC, a hospital, or other health agency. The consulting practicum is a required three-credit course. Students register for the course as an Independent Study (EPID 890).

To register for the course:

- Identify an external institution, preceptor, and topic for the practicum. The preceptor is the individual at the external agency with whom the student will work during the practicum (the student's academic advisor or other faculty members can help with this). Identify a faculty advisor (usually the academic advisor).
- Complete a consulting practicum contract (sample available from your Program Coordinator). The purpose of the contract is to define the objectives, scope, deliverables, and timeline of the practicum. The contract is prepared in consultation with the faculty advisor, preceptor, and student.
- Complete the Independent Study Contract (G-ISC). Attach a copy of your completed consulting practicum contract to your G-ISC.
- Obtain the schedule code (CRN) and section for your faculty advisor from the Program Coordinator.
- Obtain the following signatures on your G-ISC: student, academic advisor, and faculty advisor.
- Turn in your G-ISC with attached contract to the Graduate Director who will review, sign and forward to the Program Coordinator for processing. Register for the EPID 890 which corresponds to the CRN assigned to you.

During the practicum, the student will work with the preceptor as defined in the practicum contract, keeping the faculty advisor informed.

At the conclusion of the practicum, the student will do the following:

- Deliver what was agreed upon in the contract (usually a written report and presentation). If for some reason this does not occur within the defined period, the deadline can be extended after consultation with the faculty advisor and preceptor's approval.
- Ensure that practicum evaluations are completed by the faculty advisor, preceptor, and the student. The Program Coordinator will provide the evaluations for the student to send to the faculty advisor and preceptor, and the student will ensure that all completed evaluations are submitted to the Program Coordinator.

Doctoral Dissertation

Purpose of the Dissertation

All doctoral students must complete a research project culminating in a dissertation. The dissertation consists of one overarching theme with three distinct aims/research questions. The overall goal is a well-rounded experience, using a variety of approaches or designs. Feasibility should be established regarding sample size and scope relative to envisioned program duration. Students are expected to engage in quantitatively rigorous research as part of the dissertation aims. Qualitative research may be used in one of the aims of the dissertation (but not all three aims) as part of a mixed methods approach to answering a research question. If qualitative analyses is performed as part of the dissertation, the student is expected to obtain formal training in qualitative methods through coursework, workshops, and/or formal mentoring from a researcher with qualitative methods expertise prior to initiating the qualitative project.

A student may begin working **informally** on their dissertation as early as their first semester in the program; however, **students must pass the Qualifying Examination before enrolling in dissertation credits (EPID 899)**. The student, in consultation with the academic advisor/mentor, will determine a Dissertation Chair from the departmental faculty. The Dissertation Chair has primary responsibility for advising the student regarding technical work on the dissertation. **Students can register for dissertation hours only if approved by their Dissertation Chair and if actively working on the dissertation that semester.**

Manuscripts that have been submitted and/or published prior to the dissertation proposal defense cannot be included in the dissertation.

Dissertation Chair and Mentor/Mentee Relationship

Doctoral students are assigned an Academic Advisor and mentor upon acceptance into the program. Students and mentors are matched based on mutual research areas of interest. The student's Academic Advisor will usually become the Dissertation Chair. On occasion the student or mentee may decide to move in different directions. If this should occur, the student and Academic Advisor should immediately contact the Graduate Director to determine an alternate Dissertation Chair. The Chair is primarily responsible for advising and mentoring the student throughout the dissertation. The mentor/mentee relationship between the Chair and student will rely on the skills developed with the student's Academic Advisor, good communication, and mutually agreed upon expectations. Topics which should be covered in the first or second meeting (regardless of whether your Academic Advisor or a different faculty member becomes your Dissertation Chair) include but are not limited to:

- Preferred method of communication (e.g., telephone, email, walk-in, etc.)
- Frequency of meetings
- Who has the responsibility of scheduling meetings
- How the Chair will communicate which of their suggestions are recommendations and which are requirements

Dissertation Hours: Registration and Grading

Students can register for dissertation credit hours (EPID 899) only if approved by the Dissertation Chair and only when actively working on the dissertation. A total of 12 dissertation credit hours are required for graduation. If a student completes the requisite 12 hours and has not defended/submitted the final dissertation, the student must register for an additional credit hour each semester they continue to work. Contact the Program Coordinator to be assigned a CRN specific to your Dissertation Chair for EPID 899.

At the end of the semester, students enrolled in EPID 899 receive a grade (T/U) based on the progress made during the semester. Expectations for what constitutes 'adequate progress' each semester should be agreed upon by the student and Dissertation Chair before the semester begins. The grade 'T' equates to 'pass' on the transcript, and the student receives credit for the hours for which they were enrolled. A 'U' indicates an 'unsatisfactory progress' was made during the semester, and the student earns zero credits for the semester. A grade of 'U' is equivalent to a grade < 'B'. Dissertation grades are not included as part of your GPA calculation. IMPORTANT: Per the Office of the Registrar, dissertation credit final grades cannot 'incomplete'.

Doctoral Committees

After passing the qualifying exam and in consultation with your dissertation chair, two other committees must be formed – the Written and Oral Comprehensive Examination Committee and the Dissertation Committee, which are subject to approval by the Graduate Director and Dean of the Graduate School. The Doctoral Committee Appointment Request Form (G-DCA), found on The Graduate School website in the Forms library, must be submitted to the Graduate Director and Graduate School for approval prior to the dissertation proposal defense and/or comprehensive exam. Typically, the same individuals serve on both committees and the chair is the student's Dissertation Chair. The G-DCA form allows students to check both boxes if you wish to have the same committee members for both milestones. The student is expected to be actively involved in assembling the committee, asking each prospective faculty member if they would be willing to serve on the committee. The committee guides the student's work.

The majority members of the Written and Oral Comprehensive Examination and Dissertation Committees must be members of the Department of Epidemiology and Biostatistics. The membership consists of a minimum of 4 members: the Dissertation Chair, an epidemiology faculty member, an outside member (from another USC department or another institution), and one biostatistician/methodologist. Members of the committee can be regular members of the Graduate Faculty (tenure-track), associate members of the Graduate Faculty, or full-time faculty with term appointments through the Graduate School. Approval of an outside member of the doctoral committee who is not tenure-track graduate faculty at USC requires a letter of justification and an accompanying CV. If a student has a need for more than one outside member on a dissertation committee, this can be requested by way of a letter of justification from the Graduate Director and is subject to approval by The Graduate School.

Doctoral Comprehensive Examination

The purpose of comprehensive exam is to evaluate: 1) in-depth knowledge acquired by the student in the major area of concentration and in the cognate areas, and 2) the ability to integrate concepts and apply them to epidemiologic research studies. The evaluation will include, but is not limited to, determining the extent to which the student is an expert in their dissertation topic area, is well-versed in the relevant literature, is competent in applying epidemiologic concepts as they relate to his or her research area and more broadly to epidemiologic research, and can demonstrate independent thinking as a doctoral-level researcher.

The exam is taken after the completion of doctoral coursework and is scheduled for the individual student. The exam will contain written and oral components. This exam is unique to each student and is prepared and administered by the Written and Oral Comprehensive Exam committee.

Students may choose one of two options for their comprehensive exam, although the final decision rests with the student's dissertation chair.

Option One. Traditional Comprehensive Exam (Separate from Dissertation Proposal)

The student and dissertation chair will discuss when to hold the Comprehensive Exam. The student's Written and Oral Comprehensive Exam committee is responsible for writing the Comprehensive Examination. The written component of the exam includes a series of questions provided to the student by the committee. The student is given a deadline by which to submit all answers to the questions to the dissertation chair. The deadline is usually one to two weeks. Once the committee has had the opportunity to carefully review the student's responses to questions, the oral component of the exam will be scheduled, usually within one month of the written exam. The Written and Oral Comprehensive Exam committee will prepare the oral component based on the student's performance on the written component and may also include questions about material not covered on the written component. As in the written component, any topic on the student's program of study could be represented in the oral component.

The Committee evaluates both the written and oral components of the exam to determine whether the exam has been passed. Since the two components of the exam are evaluated together, the Committee is not expected to give any response concerning the written component to the student before the oral component. If a student does not perform satisfactorily, both components must be repeated. The student is allowed two attempts to pass the examination. **If a student does not pass the examination on the second attempt, they will not be allowed to continue in the program.** The examination must be completed at least 60 days before the date of graduation. The Comprehensive Verification Form must be completed and sent to The Graduate School upon completion of the examination.

Option Two. Comprehensive Examination Combined with Dissertation

The written portion of the comprehensive examination will consist of the dissertation proposal. The oral component of the comprehensive examination *must* include the oral defense of the dissertation proposal and an oral defense of additional questions given to the student in advance from the dissertation committee.

The oral exam offers the opportunity to ask more detailed questions related not only to the dissertation topic, but more broadly in the student's field of study, including methods, measurement, biologic mechanisms, other literature related to the topic, and new approaches or research questions beyond the proposal. Committee members will give the student questions one month prior to the oral examination. Students will prepare answers to the questions which will be assessed during the oral exam. Students are not required to provide written answers but may need or want to use the whiteboard to explain mechanisms or formulas. **Students are *not* allowed to bring in any outside materials or notes during the oral exam.** The oral exam of additional questions should last approximately 30-60 minutes. The total time for the combined dissertation proposal and comprehensive exam should last approximately three hours.

A student can pass one or both components (dissertation proposal and comprehensive exam). A student is deemed to have failed if the committee feels their answers do not adequately convey the depth and breadth of knowledge expected of a doctoral candidate. The exam committee will provide specific feedback to the student about the deficiencies. If a student should fail, the component(s) that need to be repeated are left up to the discretion of the exam committee. Portions can include any or all the following: written dissertation proposal, proposal defense and/or oral defense of exam questions. If a retake is necessary, the student is strongly encouraged to retake the exam within one to three months following their initial attempt. The student is allowed two attempts to pass for each of the two components. **If a student does not pass either or both components on the second attempt, they will not be allowed to continue in the program.**

Human Subjects Approvals

All dissertation research involving human subjects must be reviewed and approved by the appropriate ethics review committee. Research projects that qualify for exemption (typically secondary data analysis of existing data, observational studies with adults, or evaluation of service/public activities) can be approved by the SPH Institutional Review Board Liaison. The IRB application must be completed online at: [*IRB application*](#). Some projects must also be approved by a review committee at the agency where the dissertation research will be conducted. Any necessary approvals must be obtained prior to beginning work on the defined research. Some dissertation activities related to an ongoing research project may be covered under that project's IRB approval; this should be discussed with the project Principal Investigator and/or Dissertation Chair. In most situations, notification of the IRB or IRB liaison of a change in protocol is sufficient.

Dissertation Proposal

The dissertation proposal consists of one overarching theme and has three distinct aims/research questions. Often, there are two or three etiologic questions, but use of surveillance data for analysis of trends, disparities, etc. is equally valid if more than purely descriptive. One or more research questions can be more methodological, and one question can entail a formal systematic review including meta-analysis. The overall goal is a well-rounded experience, using a variety of approaches or designs, and the feasibility of the dissertation should be established regarding sample size and scope relative to envisions program duration. While most epidemiology dissertation will not entail primary data collection, some topics may lend themselves to this experience (e.g., infectious diseases, medical record reviews).

Students are encouraged to schedule a pre-proposal meeting to make sure all committee members agree on the three aims. After agreement on the three aims, a student will draft the chapters listed below which are sent to the Dissertation Chair for review. The drafts are returned for revisions (usually several times), and the student consults with other committee members as needed. With the Chair's approval, the student shares the complete proposal draft with the committee.

The dissertation proposal structure is as follows:

1. Title page and Table of Contents
2. List of tables, figures, and abbreviations
3. Abstract
4. Chapter 1 Introduction (about 5-10 pages, includes all aims)
5. Chapter 2 Literature review (about 20-40 pages)
6. Chapter 3 Methods (about 20-40 pages)
7. References

Dissertation Proposal Defense

The student schedules the proposal defense at a time when all committee members can attend, and it should last about 90 minutes to two hours. The proposal defense must be completed at least six months prior to the dissertation defense. The student presents to the committee orally, followed by an oral defense. The student will present the three distinct aims/research questions, which includes the background/significance, literature review, and methods. The committee will utilize the Dissertation Proposal Rubric to evaluate student performance for assessment purposes. After completing the proposal defense, the Dissertation Chair is responsible for completing the Dissertation Proposal Form, combining the rubrics into one, and turning the forms in to the Program coordinator. The forms are available on the department website.

The committee will either approve the proposal without revisions (pass), approve the proposal pending revisions (pass contingent upon receipt of revisions), or not approve

the proposal (fail). Students have two attempts to successfully defend their dissertation proposal. **If a student should fail on the second attempt, the student is released from the program.**

NOTE: Manuscripts for inclusion in dissertations cannot be submitted for publication or published prior to the dissertation proposal defense.

Dissertation Phase

The student analyzes the data, meeting regularly with the Dissertation Chair to review progress (meetings initiated by student). As data analyses continue, the student will draft additional chapters, which are reviewed by the chair and sent back to the student for revisions. During this phase, the student consults with other committee members as needed. With the chair's approval, the student shares the dissertation with the committee. Ideally, the student submits one dissertation paper during this phase.

Dissertation Defense

The student is responsible for scheduling the dissertation defense at a mutually agreeable time with all committee members, it and should last about two to two and a half hours. The student should notify the Program Coordinator so that advertisement can be posted publicly at least one week in advance of defense.

The dissertation defense consists of the full dissertation and presentation, which the student sends to all committee members at least 60 days prior to the end of the semester or at least three weeks prior to the defense, whichever is earlier. The presentation should follow the structure of Introduction, Aims, Methods, Results, and Discussion (i.e., the students will not only present what they did and their results, but also put it in context with the rest of the field and demonstrate a knowledge of other relevant literature in their field.)

The oral presentation consists of a 40-50 minute oral presentation to the committee and general audience followed by time for audience questions. The audience will leave, and the candidate will remain with the committee for a closed-door oral defense. One of three decisions will be reached by the Dissertation Committee: 1) pass with no revisions, 2) pass contingent upon successful completion of required revisions, or 3) fail. If a student receives a conditional pass, the committee will provide the student in writing all required revisions. The student will have 10-15 days to complete the revisions and resubmit for approval. If the committee determines the resubmission to be acceptable, the student has passed. Otherwise, the student will fail and will have to repeat the defense. **Students are allowed two attempts to pass the dissertation defense.**

Once the student has successfully passed the Dissertation Defense, all Dissertation Committee members must approve the final version and provide original signatures on the Dissertation Signature and Approval Form (DSF) (*as of June 2021, The Graduate School is accepting electronic signatures in lieu of original signatures due to the COVID-*

19 pandemic. Check with the Graduate Director for the current requirement). Multiple copies of the form may be submitted to The Graduate School for those committee members who are out of the country provided all forms with all required signatures are returned to the Graduate School. The Dissertation Chair will collect all Dissertation Defense Rubrics from all committee members and submit one final rubric to the Program Coordinator for academic assessment.

If the student, with committee approval, wishes to publish a manuscript(s) from the dissertation, a letter requesting delayed release (embargo) of dissemination must accompany the DSF, signed by the student's Dissertation Chair and Graduate Director. Doctoral students typically request a two-year embargo. Committee members should discuss authorship expectations on any resulting publications with the Chair of the committee and student, including expectations and changes in authorship order if publication is not completed by student in expected timeline post-graduation.

Deadlines

The dissertation must be read, critically evaluated, and approved by all members of the Dissertation Committee. In accordance with Graduate School guidelines, the following deadlines must be met.

- a. Initially, the student **must prepare a written dissertation proposal and conduct a presentation** (Dissertation Proposal Defense) to the Dissertation Committee for approval. The dissertation proposal defense should be scheduled within one year of completion of course work for the student's program of study, and after the student has passed the qualifying exam. If this schedule is not met, the student may be required to form a new dissertation research committee. The presentation of the proposal should occur within a year before graduation from the program and must be no less than six months prior to the dissertation defense.
- b. The Comprehensive Exam should either be scheduled to occur within three to six months after the dissertation proposal defense (Option One above) or conducted concurrently with the dissertation proposal defense (Option Two above).
- c. The first complete draft of the dissertation must be completed within two years of successful completion of the Proposal Defense and Comprehensive Exam. The student may request an extension of this timeline or make other arrangements, with justification. Such requests are subject to approval by the Dissertation Chair and the Dissertation Committee.
- d. The draft dissertation must be submitted for a format check via the ETD process well in advance of the dissertation defense. Please see the Graduate School website for more information about the ETD process and format check deadlines.
- e. The draft dissertation must be in the hands of the Dissertation Committee at least 60 days before the end of the semester ([Graduate Studies Bulletin](#)); the

approximate dates are October 1, March 1, and June 1 for fall, spring, and summer sessions, respectively. This is approximately six weeks before the filing date for the dissertation and should be at least one month before the scheduled defense. The dissertation defense should be scheduled at this time.

- f. The final copy is to be submitted to each committee member at least 30 days prior to the end of the semester or at least three weeks prior to the dissertation defense, whichever is earlier.
- g. The dissertation defense must be held at least one week before The Graduate School filing date, which is 20 days before the end of the semester.
- h. The student must file the final dissertation by the filing date. Final approval is given
- i. by The Graduate School via the ETD process.

Graduate Certificate in Biostatistics

Overview

The Graduate Certificate in Biostatistics (GCIB) is a 15-credit hour certificate program open to anyone who is post-baccalaureate and wishes to enhance the student's ability to manage and analyze data and perform quantitative research in fields related to clinical and population health. For more information about this certificate program, please contact the Biostatistics graduate director.

The purpose of the Graduate Certificate in Biostatistics (GCIB) degree in biostatistics is to prepare students, through quality lecture and practical experience through a capstone project, for involvement in biostatistical research for emerging health related problems. Specifically, a student who successfully completes this degree will satisfy the following goals.

Goal and Learning outcomes

GCIB program graduates will demonstrate a mastery of biostatistical techniques, know which of these is most appropriate in a given situation, and know how to perform and interpret the analyses of these techniques.

Learning outcome 1: Students will be able to apply appropriate methods of biostatistical inference, including their implementation in standard statistical software and the communication and proper interpretation of the results.

Learning outcome 2: Students will be able to read, understand critically evaluate statistical analysis commonly used in professional articles in public health.

Program of Study

The Program of Study lists all courses used to fulfill degree requirements and is developed jointly by the student and academic advisor. It must be approved and signed by the student, advisor, and Graduate Director, then submitted to the Graduate School. Refer to the GCIB in Biostatistics Degree Requirements to ensure all required courses are included.

Transfer Credits

The Program of Study may include up to nine (9) hours of graduate credit from another USC program that can be applied toward the GCIB, but not from outside the University of South Carolina. At least six (6) hours of the GCIB must be completed through new courses.

Revalidation of Out-of-Date Courses

The maximum time for degree completion is six (6) years for the GCIB. The Graduate School requires that the master student's Program of Study not have any courses taken more than six years ago. However, it is still possible to revalidate the courses that exceed these deadlines. The requirement for revalidation of the courses will be left up to the discretion of the faculty member who originally taught the student. If the instructor is no longer on the faculty, a faculty member who currently teaches the class will be responsible for revalidating the coursework. See your Graduate Director for more information. The form (PRE-Permit for Revalidation Examination) is available on the Graduate School [Forms Library website](#).

Academic Standard for Progression

NOTE: The following departmental policy is more stringent than the general policy for the Graduate School.

All graduate students are subject to the academic policies, regulations, and academic standards of both the Graduate School and the department, school and/or college in which enrolled.

A student with a **grade lower than "B"** grade on a **single core course** must retake the class prior to graduation. Retaking the course and receiving a grade of "B" or better does not replace the original grade on the student's record.

A **grade of "U" or grades below "B" on six (6) or more graduate credit hours** in courses will result in disqualification from the Graduate Certificate in Biostatistics program.

Degree Requirements for GCIB in Biostatistics

A minimum of 15 credit hours is required for GCIB.

Category	Course(s)	Credits
Required Coursework (9 credits)		
	Choose one:	3
Introductory Biostatistics (3credits)	BIOS 701 – Concepts and Methods of Biostatistics BIOS 700 – Introduction to Biostatistics PUBH 725 – Quantitative Methods for Public Health Practice II	
Intermediate Biostatistics (3credits)	BIOS 757 – Intermediate Biostatistics	3
	Choose courses to meet 3 credits:	3
Data Management and Programming (3 credits)	BIOS 710 – Effective Data Management in Public Health BIOS 709 – Basic Software for Public Health BIOS 711 – Introduction to R Programming BIOS 712 – Introduction to Stata Programming BIOS 714 – Introduction to MS Access for Public Health BIOS 719 – Advanced SAS Methods for Public Health	
	Choose two:	6
Elective Coursework (6 credits)	BIOS 735 – Machine Learning BIOS 754 – Discrete Data Analysis BIOS 755 – Introduction to Longitudinal Data Analysis BIOS 760 – Biostatistical Methods for Clinical Trials BIOS 761 – Survival Analysis BIOS 765 – Research Design in the Biomedical Sciences BIOS 767 – Spatial Statistics for Public Health BIOS 780 – Introduction to Quantile Regression	
Total		15

Note – No more than 9 hours may be used concurrently with another program of study.

For additional information about application process, visit the [website](#).

FINANCIAL ASSISTANCE AND ASSISTANTSHIPS

In addition to financial aid and fellowship information described in the Graduate Studies Bulletin, a limited number of traineeships and assistantships are available. Faculty will nominate outstanding applicants for highly competitive fellowships offered through the Arnold School of Public Health and the USC Graduate School. The USC Office of Student Financial Aid and Scholarship provides access to a variety of grants and loans for students in the Graduate School. For further information and application forms for all types of financial aid, contact them at (803) 777-8134 or visit their [website](#).

Behavioral-Biomedical Interface Program (BBIP)

The Behavioral-Biomedical Interface Program (BBIP) is an interdisciplinary research training program designed for select students beginning their doctoral studies in Epidemiology, Exercise Science, or Psychology. This training program is supported in part by a National Institutes of Health T32 pre-doctoral research training grant from the National Institute of General Medical Sciences. BBIP focuses on cross-cutting themes related to prevention and developmental sciences broadly defined. BBIP is training the next generation of behavioral scientists with respect to biomedical conceptual frameworks and methods applied to understanding, treating, and preventing adverse health conditions/disorders and promoting optimal health outcomes. To be considered, prospective applicants must apply jointly to BBIP and Epidemiology and must be a US citizen or US permanent resident. BBIP applicants are first year prospective applicants to the PhD program. For further information or to apply for this training grant, see the [BBIP website](#).

Assistantships

Purpose

A limited number of graduate assistantships are available for full-time students. These assistantships provide in-state tuition rate and a stipend in return for 10-20 hours of work per week for faculty of the Department of Epidemiology and Biostatistics, in other departments on campus, or other organizations. A graduate assistant is a student who assists, under faculty supervision, functions related to teaching, research or other services that would otherwise be performed by regular faculty and staff members. In so doing, graduate assistants receive valuable practical experience in preparation for future teaching, research, or administrative responsibilities.

Assistantships funded by nonprofit organizations or state agencies other than USC must be approved by the Dean of the Graduate School. Students appointed to such positions work for the sponsoring organizations but are under the general supervision of their departmental faculty. When faculty identify positions in other agencies, they try to see that the major duties are related to academic skills that are a part of the discipline.

Requirements

- Must be fully admitted to a degree program and enrolled in The Graduate School.
- Must maintain a 3.0 GPA, and generally good academic standing.
- Must have received a satisfactory evaluation in previous assistantship positions.
- For Teaching Assistants (TA), must co-register for or have previously completed GRAD 701 – Teaching Assistant Development.
- International students are required to attend two additional sessions: International Student Services' Orientation and English Programs for International Teaching Assistant (ITA) training sessions.
- Must be registered for a minimum of six (6) semester hours in the Fall and Spring semesters. If a student is registered for fewer than six (6) semester hours in the Fall or Spring semesters, the student will not be eligible for a graduate assistantship, unless they are finished with their coursework and have filed an exemption (Z-status) with the Graduate School.
- Must adhere to the work schedule determined jointly by the supervisor (faculty or agency supervisor) and student.
- Once a signed commitment to an assistantship position has been made, no change in position can be made without discussion by and approval of the Graduate Directors.

Hours, Fees and Other Issues of Employment

- Graduate assistants are special part-time employees of the University and should treat the assistantship as they would a professional job.
- Graduate assistants are expected to devote full-time effort to their studies and their assistantship responsibilities. They are discouraged from having additional employment, on or off campus, during the term for which they are appointed. It is University policy that no student shall be permitted to hold more than the equivalent of one University half-time assistantship (20 hours per week).
- The student is expected to work 10-20 hours per week (depending on their assistantship appointment) with pay appropriate to the total hours worked. Students with graduate assistantships qualify for in-state (resident) tuition and

program fees (see the [Bursar's website](#)). Tuition supplements are available for some Graduate Assistants either paid by department funds or contracts, on a sliding scale based on the number of credit hours taken and the number of hours of the assistantship or as indicated in the student's offer letter. The amount of the supplement is prorated for fewer hours worked or fewer course credits taken. It is possible that graduate assistantships outside the Department may not include a tuition supplement or may supplement at a different rate.

- Assistants appointed after the first 30 days of a semester (10 days of a summer term), whose duties terminate before the midterm date, or whose duties terminate before they earn the minimum stipend amount will be billed for full term tuition.
- Students will be evaluated on their performance in their teaching assistantship at the end of every semester using the EPID Teaching Assistant Evaluation Form. Teaching assistants who receive two consecutive "Needs Considerable Improvement" ratings may be terminated from their teaching assistant appointment. The Department is not obligated to offer assistantships in succeeding semesters for students terminated from an assistantship for this reason. [teaching assistant evaluation form.pdf](#)
- Assistants do not accrue sick leave, so work missed due to illness should be made up.
- Graduate assistants are normally not expected to work during official school holidays. Students requesting time off for quizzes, examinations or extended holidays may be required to make this time up. Official school holidays are Labor Day Holiday, Fall Break, Election Day (every other year), Thanksgiving Holiday, Spring Break, and Independence Day Holiday. However, some assistantships may require work during the holidays. Work schedules should be arranged with the supervisor at the beginning of each semester.

Required Teaching Assistant Training for Incoming Doctoral Students

As an entering doctoral student, you must register for the Graduate School's teaching assistant and instructional assistant (TA/IA) training and GRAD 701 (no cost and 0 credits). Prior to or concurrent with your first USC teaching experience, all graduate students must successfully complete this training. If you do not complete the requirements, you will not be considered credentialed for performing TA duties (even if you were teaching the semester you were enrolled), and you may lose your assistantship funding and in-state tuition. The link to register for orientation/training is: [TA Orientation](#). Training is offered at the start of the Fall and Spring semesters.

Additional Orientation & TA Training Requirements for International Students

In addition to participation in the TA/IA workshop, all **international graduate students** must attend the International Teaching Assistant Training Workshop (ITA) and receive a satisfactory evaluation of their oral English skills to be eligible for appointment as a

teaching/instructional assistant. For more detailed information, please visit the [ITA workshop](#) website or contact English Programs for Internationals: epi-info@epi.sc.edu or call 803-777-3867.

Placement in Assistantships

The Department makes every reasonable effort to place students in assistantships that are consistent with the students' academic interests. However, the Department is not obligated to identify an assistantship that perfectly matches the student's interests in every instance. Also, in some instances it may be necessary to place a student in an assistantship designed primarily to fulfill the Department's current needs. These positions will be consistent with the Department's goal of developing the student's abilities through the assistantship experience. Students who do not complete assigned assistantships satisfactorily are not guaranteed additional assistantships in succeeding semesters, even if this has been previously promised.

Time Limitation of Assistantships for Master's Students

The Department is committed to supporting students who are honored with guaranteed assistantships, as outlined in the student's admission letter. If a student desires funding for a period longer than defined in this letter, they may be considered for additional assistantships at the Department's discretion. In these instances, however, the student will have lower priority for Department funding than other students. Students should recognize that they may not be funded via assistantships for the full duration of their degree program, and plan accordingly. This time limitation applies only to master's students who are offered guaranteed assistantships when admitted; the Department is not obligated to ensure that assistantships will be arranged for other master's students who desire them, although we make every reasonable effort to assist these students to obtain assistantships. Successful placement in an assistantship for those not receiving a guaranteed placement does not obligate the Department to fund these students in succeeding semesters.

Time Limitation of Assistantships for Doctoral Students

Doctoral students are typically supported through research assistantships or teaching assistantships. These assistantships are an integral part of the student's doctoral preparation. They also provide the student with useful professional contacts, often forming the basis of research collaborations leading to publications and other benefits, and for letters of recommendation that are critical elements of the student's application for professional positions following graduation. While the Department is pleased to honor its doctoral students with this support, doctoral students should recognize that the period of guaranteed support is limited to what is outlined in their admission letter. Thereafter, some students who continue to work actively on degree studies may receive continued support if it is available through sponsored research funds. However, the Department is not obligated to provide continued funding to students beyond what is stated in the letter and should plan accordingly.

Other

- Assistantships are usually for a set time commitment. Any student considering a change in assistantship before the end of the agreed time must consult with their supervisor and the Graduate Director.
- Some assistantships may require the student to adhere to a dress code commensurate with the respective assignment.
- Some assistantships may require travel, work at odd hours, or flexibility of hours. A graduate assistant should be very clear with their supervisor about the time they can be available.
- No graduate assistant is expected to work more than the agreed upon hours. However, graduate assistants are encouraged to look for opportunities to attend meetings, seminars, etc., which will enhance their learning or development of specific skills. These activities may or may not be included in the paid hours of the assistantship.
- Open communication is a key to good working relationships as a graduate assistant. Supervisors are willing to accommodate assistant's needs but must be aware of the needs. Remember, supervisors of students are in charge and are responsible for setting graduate assistant work schedules.
- Assistantships will not be offered to satisfy any academic requirements, including practice requirements and thesis/dissertation research.

Travel Grants

There are two opportunities for students to receive funding for travel:

- Funding is available through the Dean's office with the maximum award being \$300. Priority will be given to students who have not received a previous travel award from the school; no student will receive more than one award in a fiscal year.
- The Graduate School also offers funding, ranging up to \$500 for domestic travel and up to \$800 for international travel. Qualified students may receive up to two travel grants during their tenure in the graduate school.

For both awards, the department may match funding up to \$450. For more information, including the applications and submission deadlines, please visit the [ASPH Travel Funding website](#) and The [Graduate School Travel Funding website](#).

COURSE DESCRIPTIONS

NOTE: The academic bulletin and this student handbook are for information purposes only and do not constitute any contractual agreement between a student and the University of South Carolina. The University reserves the right to make changes in curricula, degree requirements, course offerings, or academic regulations at any time when, in the judgment of the faculty, the president, or the Board of Trustees, such changes are in the best interest of the students and the University.

Arnold School of Public Health Courses

- ENHS 660 **Concepts of Environmental Health Science.** (3) (every semester). Environmental health sciences presenting the earth as a complex system in which people, plants, animals and non-living physical-chemical components interact.
- PUBH 700 **Perspectives in Public Health.** (3) (every semester, online). Seminar-format orientation to history, mission, and core services and disciplines of public health to develop understanding of current public health practice and how many health-related disciplines contribute to achieving public health goals.
- PUBH 724* **Quantitative Methods for Public Health Practice I.** (3) (every fall). (MPH Core Curriculum) Integrated review of quantitative methods to use in public health practice. Includes concepts from epidemiology, biostatistics, and environmental health used to calculate and interpret health indicators for describing the populations' health.
- PUBH 725* **Quantitative Methods for Public Health Practice II.** (3) (every spring). (Prereq: C or better in PUBH 724). (MPH Core Curriculum). Introduction to epidemiology and biostatistics and their application to public health issues and practice. Covers basic epidemiologic, biostatistical, and data management techniques used to analyze and interpret data in the field of public health.
- PUBH 726* **Qualitative Methods for Public Health Practice.** (3) (every fall). (MPH Core Curriculum). Introductory qualitative methods course focusing on understanding the characteristics of qualitative methods, including data collection, organization, and analysis. Students will also learn about the role of theory and paradigms in qualitative inquiry and how to identify, work with, and communicate qualitative analysis results with different types of community stakeholders.

- PUBH 730* **Public Health Systems, Policy, and Leadership.** (3) (every spring). (MPH Core Curriculum). Designed to prepare future public health professionals with the knowledge and skills needed to solve public health problems using systems thinking tools, best practices in public health management, and policy development, application, and evaluation. It emphasizes identifying and enhancing the knowledge and skills needed to effectively lead public health initiatives.
- PUBH 735* **Practical Applications of Public Health Planning.** (4) (every spring). (MPH Core Curriculum). Provides the opportunity for students to gain an in-depth understanding of the program planning process in public health. Students will work in teams to develop programs addressing a public health issue affecting a target population and setting, based on available epidemiological and social assessment data, and multi-level interventional strategies informed by theory and existing evidence-based interventions.
- PUBH 810 **Ethics in Public Health Research and Practice.** (1) (not currently offered) (Enrollment restricted to doctoral students and post-docs, master's students by permission of instructor). Foundation of public health ethics with application to practice and to responsible conduct of research in public health disciplines.

*These courses are offered in-person and online. In-Person students must talk to their program director before enrolling in any online courses.

Epidemiology Undergraduate Courses

- EPID 349 **Infectious Disease Epidemiology.** (3). (Pre-req: solid understanding of basic science and public health curricula, such as molecular biology or anatomy-physiology; or permission from instructor). This introductory course will review the history of infectious diseases, principles of infectious disease transmission, relevant study design and analysis techniques, and the clinical epidemiology of specific pathogens by transmission route categories.
- EPID 394 **Special Topics in Epidemiology.** (1-3). Content variable. May be repeated for credit. For undergraduate students only. Course would count as a cognate course in the undergraduate public health curriculum.
- EPID 410 **Principles of Epidemiology.** (3) (every semester and summer) (Required for Public Health undergraduate majors at USC) (Prereq or Coreq: STAT 201 or 205). Introduction to descriptive and analytical epidemiology. Topics will include the distribution and determinants of disease, surveillance, outbreak investigations, measures of association, screening tests, bias, and causal reasoning.

EPID 490 **Independent Study.** (1-3) Enrollment and topic to be approved in advance by advisor and instructor. May be repeated. Prerequisites: permission of instructor.

Epidemiology Undergraduate/Graduate Courses

EPID 542 **Global Health Epidemiology.** (3). Course may be taken by undergraduate or graduate students. This course will introduce epidemiologic concepts and methods using cases studies examining current global health challenges. Students will gain an understanding of the role of epidemiology in understanding the distribution of disease and risk factors, and developing, implementing and evaluating public health interventions globally.

EPID 594 **Special Topics in Epidemiology.** (1-6) (Varies). Content variable. May be repeated for credit. Course may be taken by undergraduate or graduate students.

EPID 661 **Parasitology.** (4) (every spring semester) (Pre-requisite: 300 level Biology course or equivalent). Parasites of biological, economic, and public health importance. Three lecture and three laboratory hours per week.

Epidemiology Graduate Courses

EPID 700 **Introduction to Epidemiology.** (3) (not currently offered). Principles of epidemiology with examples of selected health problems. Health status of populations and conceptual tools for translating epidemiologic findings into public health action.

EPID 701 **Concepts and Methods of Epidemiology.** (3) (every fall) (Prereq or Coreq: BIOS 701 or permission of instructor). Conceptual foundation of epidemiologic research, quantitative methods, and epidemiologic study design. Intended for those who will be involved in epidemiologic research.

EPID 721* **Clinical and Population Research Protocol Development and Implementation.** (2) (every spring). The purpose of this course is to develop applied research skills related to the development of appropriate clinical and population research protocols for a given public health issue and context.

EPID 722* **Scientific Writing and Appraisal of Epidemiologic Studies.** (2) (every fall) (prereq: EPID 701, PUBH 725 or permission of instructor). This course will familiarize students with techniques used to critically assess, interpret, evaluate, and synthesize epidemiologic literature. Students will be introduced to research databases, reference management software,

reporting guidelines, and methods for systematic reviews. Students will learn how to effectively communicate research finding via manuscript and oral or poster format.

- EPID 725 **Biologic Basis of Public Health.** (3) (currently not being offered). Survey of the biology of human disease processes at cellular, tissue and body system levels with the emphasis on the application of biological principles to contemporary public health problems.
- EPID 730* **Public Health Surveillance Systems.** (3) (every fall). Introduction to the concepts, implementation, and evaluation of surveillance systems to monitor the health of human populations.
- EPID 741* **Intermediate Epidemiologic Methods.** (3) (every spring) (Prereq: EPID 701, PUBH 725 or equivalent course; Coreq: BIOS 757/758, and **either** Prereq: BIOS 710 or Prereq/Coreq: BIOS 709). Application of epidemiologic methods to current health problems through analysis of secondary data. Strategies for investigating etiologic hypotheses, assessment and control of confounding.
- EPID 744 **Cardiovascular Disease Epidemiology.** (3) (Prereq: EPID 701, PUBH 725 or equivalent course) (spring of every even year). Epidemiology of selected groups of cardiovascular diseases (CVD) including etiology, pathophysiology, identification, and description of events of CVD, and outcomes. (Doctoral students: See EPID 844)
- EPID 746 **Cancer Epidemiology.** (3) (spring of every odd year) (Prereq: EPID 701, PUBH 725 or equivalent course. The instructor reserves the right to waive the pre-requisite or consider co-requisites in special cases.). Epidemiology of selected cancers in humans, including etiology, pathophysiology, identification and description of events of cancer and outcomes.
- EPID 747 **Environmental Epidemiology.** (3) (not currently being offered) (Prereq: EPID 700, BIOS 700). Emphasis on the epidemiology of selected environmental factors which may affect human health including the identification of health hazards and methods of investigation. (Doctoral students: see EPID 847)
- EPID 749* **Infectious Disease Epidemiology.** (3) (every fall in-person; every spring online) (Prereq: EPID 701, PUBH 725, or equivalent course; BIOS 700/701 or consent of instructor. The instructor may waive course requirements or consider the need for co- requisites in special cases.). Introduction to principles of epidemiology and control of infectious disease. Focus will be on selected bacterial, viral, parasitic, and fungal diseases of public health importance locally, nationally and globally.

- EPID 763 **Nutritional Epidemiology.** (3) (every fall) (Prereq: EPID 701, PUBH 725 or equivalent course). Covers methodology for investigating nutrition's role in health, including nutritional assessment and the design and interpretation of research studies. Substantive issues emphasize major public health concerns of the 21st century.
- EPID 765 **Reproductive and Perinatal Epidemiology.** (3) (every spring) (Prereq: EPID 701, PUBH 725 or equivalent course and BIOS 701 or permission of instructor). Epidemiology of major reproductive outcomes in humans with emphasis on pathophysiology, risk factors, analytic methods of investigation and surveillance/monitoring of reproductive events. (Doctoral students: see EPID 865)
- EPID 767* **GIS and Public Health Applications.** (3). Principles and application of basic and intermediate-level GIS technologies in public health practice and research. (Doctoral students: see EPID 867)
- EPID 768 **Psychiatric Epidemiology.** (3) (every fall). Methodologic issues in the epidemiologic study of psychiatric disorder, the epidemiology of major psychiatric outcomes, and issues in the study of special populations.
- EPID 770* **Social Epidemiology.** (3) (every even spring) (Prereq: EPID 701, PUBH 725 or equivalent course). Influence of social factors and the distribution of those factors on patterns of health and disease. Including individual-level examinations of the role of social determinants in producing health, as well as more macro-level examinations of patterns of social disparities in health status.
- EPID 777 **Fundamentals of Genetic Epidemiology.** (3) (every spring) (Prereq: EPID 701, PUBH 725, or equivalent course; BIOS 701 or equivalent; alternative considerations can be made by contacting instructor). This course is an introduction to the field of genetic epidemiology, providing students with an understanding of 1) basic genetics, 2) the tools used by geneticists and genetic epidemiologists, and 3) the integration of genetic data into traditional epidemiologic and computational software tools used to analyze genetic data.
- EPID 788* **Practical Methods for Secondary Data Analysis.** (3) (every fall) (One of the following two options: 1) PUBH 725 AND BIOS 709 OR 2) EPID 701 AND BIOS 701 AND Either BIOS 709 or BIOS 710; Recommended pre-requisite: 1) BIOS 757 OR BIOS 758 OR BIOS 754; and 2) EPID 741 or equivalent research methods course. Instructor reserves the right to waive course requirements.). Methods include data management and analysis using SAS, data interpretation, survey designs, weighting techniques, and innovative record linkages. Introduction to data sources and methods commonly used by epidemiologists and health analysts in state or federal health departments and research settings.

- EPID 790 **Independent Study.** (1-6) (Prereq: permission of instructor). Directed research on a topic to be developed by MPH or MS student and instructor. May be repeated.
- EPID 794 **Special Topics in Epidemiology.** (1-6). Content varies by title. May be repeated for total of 6 credit hours.
- EPID 796* **Integrated Learning Experience.** (3) (Pre-requisites: PUBH 725, 726, 730, 735, EPID 741 or permission of MPH Graduate Director) (Restricted to EPID MPH students). Demonstrate synthesis of MPH foundational and concentration competencies to address a public health issue in the form of a high-quality written product.
- EPID 798 **Epidemiology Applied Practice.** (3) (Pre-requisites: PUBH 725, 726, 730, 735 or permission of Graduate Director). Apply and test public health concepts, theories, and analytical tools learned in the classroom to real-world public health issues outside of the classroom in any one of a variety of settings.
- EPID 799 **Thesis Preparation.** (1-9).
- EPID 800 **Advanced Methodological Theory in Epidemiology.** (3) (every fall) (Prereq: EPID 741 or permission of instructor). Advanced epidemiologic methods in the design of epidemiologic studies, with emphasis on causal inference. Theories and frameworks of causation and interactions between causes and graphical visualization tools.
- EPID 801 **Advanced Analytical Methods in Epidemiology.** (3) (every spring) (Prereq: EPID 741 and BIOS 757 or equivalent courses). Application of advanced analytical methods, relying heavily on problem solving, data analysis and interpretation.
- EPID 802 **Grant Writing.** (3) (every fall) (Prereq: EPID 741 or permission of instructor). Extension of research design and development issues with focus on writing a major research grant application.
- EPID 805 **Introduction to Systematic Reviews and Meta-analysis** (1 or 3) (every spring) (Prereq: BIOS 700/701 (or their equivalent) and, preferably, BIOS 757 with a grade of "C" or better) (cross-listed with EXSC 805). Overview of how to conduct systematic reviews and meta-analyses from published scientific literature.
- EPID 820 **Seminar in the Epidemiology of Health Effects of Physical Activity.** (3) (currently not being offered) (Prereq: EPID 741, BIOS 759). Seminar presentation and group discussion on the major issues in the study of physical activity and exercise and its impact on health.

- EPID 830 **Seminar in the Epidemiology of Aging.** (3) Exploration in depth of theories, current health problems, research, and methodological issues in the epidemiology of aging.
- EPID 844 **Advanced Cardiovascular Disease Epidemiology: Evidence Synthesis and Evaluation.** (3) (Meets with EPID 744, every even Spring). The purpose of the course is to provide a comprehensive overview of the field of cardiovascular disease epidemiology and enable the student to gain a thorough understanding of the population burden of CVD and its contributing factors. Emphasis will be placed on using evidence synthesis tools such as systematic reviews and meta-analyses to evaluate the scientific literature. Students will gain experience in evaluating systematic reviews and developing a protocol for a systematic review/meta-analysis.
- EPID 845 **Doctoral Seminar.** (1) (every semester) (Prereq: complete at least one semester of coursework and consent of instructor). May be repeated for credit up to 3 times as content varies by title. Seminar covers topics such as plagiarism and professional writing (845A), contemporary issues and novel methodological approaches in the field of epidemiology (845B), and career development (845C). (Pass/Fail grading)
- EPID 847 **Advanced Environmental Factors and Human Health.** (3) (Not currently being offered) (Prereq: EPID 701 or PUBH 725, BIOS 701). Advanced methods encompassing the investigation of environmental factors and how they affect human health. Emphasis on reading and interpreting the peer reviewed scientific literature and developing a systematic literature review and grant proposal
- EPID 861 **Fundamentals and Applications of Translational Science** (3) (every fall) (required for BBIP trainees in Year 2). The course is divided into two parts. Part I, the Fundamentals of Translational Science, will provide students with foundational information to understand the basic principles of translational science. Part II of the course, Applications of Translational Science, will provide students with real-world examples of translational science research.
- EPID 865 **Methods in Reproductive and Perinatal Epidemiology.** (3) (Meets with EPID 765, offered every spring) (Prereq: EPID 701 or PUBH 725, BIOS 701). This course provides an overview of reproductive and perinatal epidemiology and the applications in the field of Maternal and Child Health. It covers the current and emerging topics in this area. Designed for doctoral students with interests in conducting research related to reproductive and perinatal epidemiology.
- EPID 867 **Geographic Information Systems for Public Health Research.** (3) (currently not being offered). (Meets with EPID 767, every fall). Principles and application of basic and intermediate-level GIS technologies in public health research. Designed for doctoral students with interest in conducting health-related research using GIS methods.

- EPID 869 **Clinical Effectiveness.** (3) (varies) (Prereq: EPID 701, PUBH 725 or equivalent course). This course develops skills in the application of epidemiologic methods to clinical effectiveness research, defined as generating evidence to inform stakeholders about treatment options, and improve treatment safety, quality, efficiency, and effectiveness.
- EPID 877 **Advanced Methods and Concepts in Nutritional Research.** (3) (varies) (Prereq: EPID 763 or permission of instructor). Advanced methods and concepts in nutrition research addresses aspects of nutrition ranging from nutritional biochemistry to dietetics and community nutrition education. It covers disciplinary breadth encompassing the study of effects of dietary exposures on inflammation, epigenetics, immune function, psychological states and traits, physiologic states, and pathophysiologic processes, including carcinogenesis.
- EPID 890 **Independent Study.** (1-3) (Prereq: permission of instructor). Directed research on a topic to be developed by doctoral student and instructor.
- EPID 894 **Special Topics in Epidemiology.** (1-3). Content varies by title. May be repeated for credit.
- EPID 899 **Dissertation Preparation.** (1-12) (Prereq: one full year (18 hrs.) of graduate study beyond the master's level and successful completion of the qualifying exam).

*These courses are offered in-person and online. In-Person students must talk to their program director before enrolling in any online courses.

Biostatistics Graduate Courses

- BIOS 700 **Introduction to Biostatistics.** (3) (every semester). Health related statistical applications. Descriptive statistics, probability, confidence intervals, hypothesis testing, regression, correlation, ANOVA. May not be used for graduate credit in epidemiology or biostatistics.
- BIOS 701 **Concepts and Methods of Biostatistics.** (3) (every fall). Descriptive and inferential statistical applications to public health. Probability, interval estimation, hypothesis testing, measures of association. For students planning further study in epidemiology or biostatistics.
- BIOS 709* **Basic Software for Public Health.** (1) (every fall, Spring & summer). Statistical data management techniques. Microcomputer applications, communication between microcomputers and mainframe, tape and disk storage, access to large health-related databases.

- BIOS 710 **Effective Data Management for Public Health.** (3) (every fall & summer). This course teaches techniques for creating and using small data sets. Students will become familiar with four software packages used for data entry, data management, and presentation, PC/SAS, STATA, MS Excel, and MS Access.
- BIOS 711 **Introduction to R Programming.** (1) (every fall). Students will learn the software program R for performing data management. R software includes basic to advanced commands for properly formatting data for analysis for public health data
- BIOS 712 **Introduction to Stata Software.** (1) (every fall). Students will learn the software program Stata for performing data management. The course covers basic to advanced commands for properly formatting data for analysis for public health data.
- BIOS 714 **Introduction to MS Access for Public Health.** (1) (every fall). This course focuses the uses of Microsoft Access for data management in public health. The course takes the student through building tables, forms, queries, reports and finishes with automated scripts for each of use with Access.
- BIOS 719* **Advanced SAS Methods for Public Health.** (1) (every fall). Building upon skills learned in BIOS 709 (Introduction to SAS), students will learn data management using PROC SQL & SAS Macro Language which prepares data for conducting efficient statistical analysis.
- BIOS 745 **Seminar in Biostatistics.** (1-2) (every fall & spring). Analysis of current and prospective issues in biostatistics, including historical foundations. Includes student exploration of unsolved problems and examination of central issues in biostatistics. (Pass/Fail grading)
- BIOS 746 **Introduction to Complex Survey Data Analysis.** (1-2) (every fall & spring). Students will learn the basics of data collection methods, sampling design for linear, logistic, and survival analysis complex models using survey data. (Pass/Fail grading)
- BIOS 751 **Health Data Systems.** (3) (currently not offered) (Prereq: HSPM 700, BIOS 700). Origin and operation of databases serving governmental and institutional policy and management of programs.
- BIOS 752 **Vital Record and Health Survey Data Analysis.** (3) (currently not offered) (Prereq: BIOS 700, BIOS 710, EPID 700). Assessing, managing, analyzing, and interpreting results from state and national vital records and health survey data sets. Common problems, programming techniques, and analytic considerations.

- BIOS 753 **Community Health Studies.** (3) (currently not offered) (Prereq: EPID 700, BIOS 700, consent of instructor). Process, skills, and management of undertaking health studies in the human community.
- BIOS 754 **Discrete Data Analysis.** (3) (every fall) (Prereq: BIOS 757 and EPID 700/701). Analysis of discrete data in public health studies. Relative risk, odds ratio, rates and proportions, contingency tables, logistic regression, introduction to other advanced topics. Not for Biostatistics majors.
- BIOS 755 **Introduction to Longitudinal Data Analysis.** (3) (every spring) (Prereq: BIOS 757). An introduction to principles and methods for longitudinal data, which are often encountered in practice where multiple measures are observed over time on an individual. This course is designed for non-biostatistics major researchers, with a focus on data analysis and interpretation more than theoretical development. Problems will be motivated by applications in epidemiology and clinical medicine, health services research, and disease natural history studies.
- BIOS 757* **Intermediate Biostatistics.** (3) (every semester) (Prereq: A course in introductory statistics). Public health applications of correlation, regression, multiple regression, single and multi-factor analysis of variance and analysis of covariance.
- BIOS 758 **Advanced Biostatistics.** (4) (every spring) (Prereq: BIOS 701). Additional topics in analysis of health data including regression diagnostics, multicollinearity of observational data, ridge/nonlinear regression, principal components, random/missed effects, unbalanced designs, repeated measures, and sampling and design effects.
- BIOS 759 **Theory of Discrete Data.** (2-3) (every fall) (Prereq: EPID 701 and BIOS 757). The concepts, principles and biostatistical techniques necessary to analyze categorical epidemiological data including dose response curves, life tables and discrete measures of association. Estimation of parameters for logistic and other commonly used epidemiological models.
- BIOS 760 **Biostatistical Methods in Clinical Trials.** (3) (fall of every odd year) (Prereq: EPID 700, BIOS 700, EPID 741, BIOS 757). This course will cover the basic and advanced statistical techniques necessary for the design, conduct, analysis and interpretation of results of clinical trials.
- BIOS 761 **Survival Analysis.** (3) (every fall) (Prereq: BIOS 757 or equivalent). Methods for the analysis of survival data in the biomedical setting. Underlying concepts; standard parametric and nonparametric methods for one or several samples; concomitant variables and the proportional hazards model.

- BIOS 765 **Research Design in the Biomedical Sciences.** (3) (spring of every odd year) (Prereq: BIOS 757). Fundamentals of constructing, analyzing, and interpreting biomedical studies; internal and external validity, sample size determination, completely random designs, blocking, crossover designs, confounding, nested designs, repeated measure designs.
- BIOS 770 **Applied Longitudinal Data Analysis** [= STAT 771]. (3) (every spring) (Prereq: BIOS 757 or STAT 701 or STAT 705). Modern methods for the analysis of repeated measures, correlated outcomes, and longitudinal data, including repeated measures ANOVA, generalized linear models, random effects, and generalized estimating equations.
- BIOS 780 **Introduction to Quantile Regression.** (3) (spring of every even year) (Prereq: BIOS 757). Principles and methods for quantile regression analysis, which is a robust statistical approach that extends the classical mean regression analysis based on least squares.
- BIOS 790 **Independent Study.** (1-6) (Prereq: permission of instructor). Directed research on a topic to be developed by MPH or MSPH student and instructor. May be repeated.
- BIOS 794 **Special Topics in Biostatistics.** (1-6).
- BIOS 798 **Public Health Practice.** (1-6) (Prereq: 9-10 hours of specified courses including EPID 700, EPID 741, BIOS 700). Performance of a limited work of service project in a public need setting, pursuit of planned learning objectives related to previously identified aspects of the student's chosen role. Self-monitoring and regular seminars focusing on learning accomplishments. (Pass/Fail Grading)
- BIOS 799 **Thesis Preparation.** (1-9).
- BIOS 805 **Categorical Data Analysis.** [=STAT 770] (3) (fall of every even year) (Prereq: BIOS 759 or STAT 704 and consent of instructor). Advanced methods for analysis of discrete data. Higher order contingency tables, log-linear and other generalized linear models. Multivariate methods for matched pairs and longitudinal data.
- BIOS 811 **Survival Analysis II.** (3) (spring of every even year) (Prereq: BIOS 761). Parametric survival analysis accelerated failure time model, frailty model, competing risk model and multi-state model. Techniques motivated by applications in epidemiology and clinical medicine research, applications demonstrated using public health data sets.
- BIOS 816 **Advanced R Programming for Public Health.** (3) (spring of every odd year) (Prereq: BIOS 711). This course provides the principles and techniques to efficiently design, implement, and execute simulation and data analysis routines in quantitative fields like biostatistics, statistics, engineering, finance, and data science.

- BIOS 818 **Advanced Computational Statistics for Signal and Network Analysis.** (3) (spring of every odd year) (prereq: BIOS 711 & BIOS 757). This course provides an overview of advanced computational statistics for signal and network analysis with a wide variety of social, genomic, and neuroscientific applications.
- BIOS 820 **Bayesian Biostatistics and Computation.** [=STAT 745] (3) (fall of every odd year) (Prereq: BIOS 757 or STAT 705). Bayesian methodology for randomized trials, epidemiology, survival, bioassay, logistic and log-linear regression modeling, longitudinal data, classification and bioinformatics, advances in computational methods.
- BIOS 822 **Statistical Methods in Spatial Epidemiology.** (3) (fall of every even year) (Prereq: BIOS 757 and 759). A comprehensive introduction to the statistical methods used in the analysis of geo-referenced spatial health data. Topics range from disease mapping to prospective surveillance.
- BIOS 825 **Multivariate Biostatistics.** (3) (fall of every even year) (Prereq: STAT 516 or BIOS 757). Analysis of multivariate data as found in biomedical studies; multivariate linear models, principal components analysis, factor analysis, discriminant and cluster analysis. Other special multivariate topics such as principal components regression.
- BIOS 845 **Doctoral Seminar.** (1) (Prereq: complete at least one semester of coursework and consent of instructor). May be repeated for credit. (Pass/Fail grading)
- BIOS 890 **Independent Study.** (1-3) (Prereq: permission of instructor). Directed research on a topic to be developed by doctoral student and instructor. May be repeated.
- BIOS 894 **Special Topics in Biostatistics.** (3). Discussion on current and emerging issues in biostatistics. May be repeated for credit.
- BIOS 898 **Doctor of Public Health Practicum.** (1-6).
- BIOS 899 **Dissertation Preparation.** (1-12) (Prereq: one full year (18 hrs.) of graduate study beyond the master's level).

*These courses are offered in-person and online. In-Person students must talk to their program director before enrolling in any online courses.

FORMS

Forms Available on Graduate School Website

Graduate School:

[Forms Library - Graduate School | University of South Carolina](#)

1. [Course Overload Enrollment Authorization \(GS-54 CEO\)](#)
2. [Dissertation Signature and Approval Form \(G-DSF\)](#)
3. [Doctoral Committee Appointment Request \(GS-48 G-DCA\)](#)
4. [Doctoral Comprehensive Exam Verification](#)
5. [Doctoral Program of Study \(DPOS\)](#)
6. [Graduate Assistant Appeal to Work 21-25 Hours \(GAA\)](#)
7. [Grievances, Appeals and Petitions form \(G-GAP\)](#)
8. [Independent Study Contract \(GS-50 G-ISC\)](#)
9. [Master's Comprehensive Exam Verification](#)
10. [Master's Program of Study \(MPOS\)](#)
11. [Master's Thesis Signature and Approval Form \(G-TSF\)](#)
12. [Permit for Course Revalidation Examination \(GS-04 PRE\)](#)
13. [Program of Study Adjustment Form \(GS-43 POSA\)](#)
14. [Qualifying Exam Verification](#)
15. [Request for Special Enrollment or Z-status \(GS-ZS\)](#)
16. [Request for Transfer of Graduate Credit \(G-RTC\)](#)
17. [Survey of Earned Doctorates \(SED\)](#)

Forms Available on Departmental Website

Department:

https://www.sc.edu/study/colleges_schools/public_health/study/areas_of_study/epidemiology_biostatistics/current_students/forms/index.php

1. [Checklist for Master's Students](#)
2. [Checklist for Doctoral Students](#)
3. [Advisement Form \(ASPH Form\)](#)
4. [Doctoral Dissertation Proposal Form \(Department form\)](#)
5. [Master's Committee Appointment form \(Department form\)](#)
6. [Master's Thesis Proposal Form \(Department form\)](#)
7. [Early Clearance Procedures](#)
8. [Delayed Embargo Request Template](#)
9. [Teaching Assistant Evaluation Form](#)

Request for Travel Authorization available online

https://www.sc.edu/study/colleges_schools/public_health/study/areas_of_study/epidemiology_biostatistics/epid_bios_travel_authorization/index.php

Travel requests must be submitted and approved before the travel can commence. Receipts for all expenses must be submitted to the Program Coordinator immediately following the approved travel. Contact Program Coordinator with questions or additional travel information