

# Rollins School of Public Health

## Overview of Water, Sanitation, and Hygiene (WASH) Courses

METHODS COURSES								
Courses	Term	Credits	Suitable for Years		Prerequisite	Overview	Instructor	Meets Requirements
			Y1	Y2				
<b>BSHE539</b> - Qualitative Research Methods	Spring	3	Yes	Yes	BSHE 5328	Students must tell instructor that they are in the WASH Certificate Program so the instructor can give the student a WASH dataset for the class.	Karen Andes	Methods
<b>EH 548:</b> Research Methods for Studies of Water & Health	Spring	3	Yes	Yes	Recommended Pre-requisite: GH 529 (Water and Sanitation in Developing Countries) or equivalent	This hands-on course covers methods needed to carry out field studies focused on water and health. Through lecture and laboratory exercises, students will learn critical skills in measuring water quality exposure assessment and waterborne disease health outcomes that will enable them to conduct their own field studies and analyze the resulting data. The focus will be on issues of microbiological contamination in developing countries, but chemical contamination and domestic cases will also be covered.	Karen Levy	Methods
<b>EH 549:</b> Critical Analysis of Water, Sanitation & Hygiene Research	Spring	2	Yes	Yes	None.	Introduction and discussion of <i>research</i> methods drawn from scientific papers. Focus on 3-4 specific WASH topics, including climate and water, zoonotic infection, sanitation behavior change, and measurement.	Tom Clasen	Methods

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<b>GH 522: Qualitative Research Methods</b>	Spring	3	Yes, Preferred to guide practicum	Yes	None- Priority to GH Students	This course provides students with the theoretical principles and practical skills for conducting qualitative research. Weekly sessions are focus on different tasks in the qualitative research process, including: theory and concepts, qualitative research design, ethical challenges, data collection methods (Interviewing, group discussions, observation), and applying rigor in qualitative research. We describe the challenges of applying qualitative methods in international settings. This course is a prerequisite for the fall course on Qualitative Data Analysis (GH525).	Monique Hennink	Methods
<b>GH 525: Qualitative Data Analysis</b>	Fall	3	No	Yes, best after Practicum	None.	Students will learn the theoretical principles and practical skills for analyzing qualitative data. The course is intended for second year students who have completed a course in qualitative research methods (e.g. GH522) and collected qualitative data during their summer practicum. However, students without their own data may still register and use a class data set. Students will learn techniques for analyzing qualitative data through guided classroom activities, lab sessions and structured assignments. Each student will work with their own data in course assignments. The course will provide an overview of the theoretical principles of qualitative data analysis, and practical tasks of data preparation, data analysis, writing and presenting data. The course will also provide students with an understanding of the role of software in analyzing qualitative data and develop skills in using analysis software weekly.	Monique Hennink	Methods

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<b>GH 560:</b> Monitoring and Evaluation	Fall	3	No	Yes	Global Health, only	Teaches technical skills to conceptualize and design process and impact evaluations of international public health programs or projects. Helps students understand the role of monitoring and evaluation in policy analysis, planning, program design and management	Matt Freeman	Methods
<b>GH 565:</b> Monitoring and Evaluation	Spring	2	Yes	Yes	None	This course provides students with basic technical skills to design and set up monitoring systems and carry out needs and process evaluations of public health programs and/or projects. It also helps students to understand the role of monitoring and evaluation in policy analysis, program planning, design, and implementation. The course is primarily intended for first-year students who will be conducting an M&E activity for their summer practicum and who wish to develop the M&E plan before arrival in the field. It will be expected that all students in the course will have their own project that they will need to be able to describe and use as the basis for developing their M&E plan. Through a mixture of didactic lectures and breakout activities, by the end of the course the student will have the theoretical underpinnings and will have developed their plan. Half a semester class; meets 2x/week plus lab.	Aryeh Stein	Methods
<b>INFO 530 -</b> Geographic Information Systems	Fall & Spring	2	Yes	Yes	None	This course introduces the use of geographic information systems (GIS) in the analysis of public health data. We develop GIS skills through homework and case studies, and particularly address basic GIS operations such as buffering, layering, summarizing, geocoding, digitizing, and spatial queries. **Students must tell instructor that they are in the WASH Certificate Program so the instructor can arrange for the use of a WASH dataset.	Julie Clennon	Methods

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BIOLOGY COURSES								
Courses	Term	Credits	Suitable for Years		Prerequisite	Overview	Instructor	Meets Requirements
			Y1	Y2				
<b>EH 546/GH 580:</b> Environmental Microbiology: Control of Food and Waterborne Diseases	Spring January short course	2	Yes	Yes	None	Introduction to waterborne and foodborne diseases. Covers basic microbiology and epidemiology of enteric diseases, including descriptions of outbreaks and surveillance systems within the US and the global burden of disease. Features lectures from CDC leaders in enteric diseases.	Christine Moe / Gene Gangarosa	Biology
<b>GH 516:</b> Global Perspectives in Parasitic Diseases	Fall	3	Yes	Yes	EPI530 may be taken concurrently	Focuses on prevalent parasitic infections seen in this country as well as those seen primarily abroad. Topics include parasite lifecycles, immunology, diagnostic methods, clinical manifestations, treatment and follow up, complications, epidemiology, prevention and control, methods of transmission, and future research priorities.	Juan Leon	Biology
<b>EHS 750:</b> Environmental Determinants of Infectious Diseases	Spring	3	Yes	Yes	None	This course covers the many different ways that the environment influences the transmission and spread of infectious diseases in humans. We take a broad definition of "the environment", considering air, water, soil, animal, and human influences, with case studies on each of these environmental factors. The course will also cover a variety of methods used in the study of infectious, including epidemiology, mathematical modeling, risk analysis, social science, ecology, and molecular biology. The theme of this course is "Think like a pathogen"—students will learn to think from the perspective of a pathogen trying to maximize its fitness over both short- and long-term time scales	Karen Levy	Biology

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ELECTIVE COURSES								
Courses	Term	Credits	Suitable for Years		Prerequisite	Overview	Instructor	Meets Requirements
			Y1	Y2				
<b>CEE 6311:</b> Microbial Principles *GA TECH	Fall	3	Yes	Yes	None	Microbial Principals in WASH	Joe Brown	Elective
<b>CEE 4803:</b> Environmental Technology in the Developing World *GA TECH	Spring	3	Yes	Yes	None	Environmental Technology in the Developing World	Joe Brown / Bergin	Elective
<b>EH 590R</b> - Design, delivery, and assessment of WASH in schools programs	Spring	2	Yes	Yes	None	This course is a collaboration between Emory University and UNICEF. The purpose of this course is to support applied learning on developing, executing, and evaluating sustainable and inclusive WASH in Schools interventions in collaboration with local, sub-national, and national stakeholders. The course includes 10 online modules taught live every other week and a final case study assignment. The course will support participants to identify areas of concern, advocate for improved WASH conditions, select appropriate behavior change and technology approaches, and monitor program outputs and outcomes. Course participants will include MPH students, UNICEF field officers, government stakeholders, and other sectorial stakeholders and is designed to ensure active participation and sharing of experience and information between participants.	Matt Freeman	Elective

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<b>EH 570:</b> Environmental and Occupational Health Policy	Spring	2	Yes	Yes	None	This course introduces students to the major laws and regulations applicable to environmental and occupational health in the United States. We will also explore the history, politics, economics, and ethics of environmental and occupational health policy. Readings, discussion and occasional guest speakers also explore issues of equity and environmental justice. Case studies, in-class-activities and a policy analysis assignment will emphasize the challenges of environmental and occupational health policy <i>“Students must tell instructor that they are in the WASH Certificate Program and arrange for a WASH-related final project in order to obtain credit for the WASH certificate”</i>	Tom Clasen	Elective
<b>EH 582/GH 582:</b> Global Climate Change: Health Impacts and Response	Fall	2	Yes	Yes	None	This course will explore the public health effects of global climate change, epidemiologic and other methods for understanding and studying these effects, the public health adaptation response, and potential mitigation efforts and activities. Public health responses will be discussed with particular focus on global health issues. The course will emphasize a practical approach to vulnerability and risk assessment, and students will develop skills assessing the risks of particular climate-related health impacts.	Liu	Elective
<b>EPI 540:</b> Case Studies in Infectious Disease Epidemiology	Fall	2	Yes	Yes	EPI 504 or EPI 530 and BIOS 500 or permission of instructor. Cross-listed with GH 517.	Provides training in the investigation, control, and prevention of infectious diseases by both descriptive and analytic epidemiological techniques. Students work with infectious diseases of national and international interest. Prerequisites/concurrent: EPI 504 or EPI 530 and BIOS 500 or permission of instructor. Cross-listed with GH 517. <b>Students MUST complete a WASH final project in order to get credit. No exceptions.</b>	Spaulding	Elective

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Courses	Term	Credits	Suitable for Years		Prerequisite	Overview	Instructor	Meets Requirements
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<b>GEH 571:</b> Global Environmental Health Policy: Power, Science, and Justice	Spring	2	Yes	Yes	None	This seminar encourages students to explore the forces that influence the development of environmental health policy, particularly in low income countries. Using a case study approach that draws on the instructors experience in international water and sanitation, the course examines the actors, the agendas and strategies, and political, social, legal and economic systems in which they operate. Special emphasis on the role of research and scientific evidence in environmental health policymaking.	Tom Clasen	Elective
<b>GH 529:</b> Water and Sanitation in Developing Countries	Fall	2	Yes, preferred	Yes	None	Lecture-style introductory class with global perspective; provides overview of WASH challenges, and describes approaches and technologies for WASH programming. Includes 6-week field and lab hands-on water sampling and testing project. Valuable preparation for students who are planning a WASH-related GFE or practicum.	Christine Moe	Elective
<b>INFO 532:</b> Principals of Geographic Information Systems	Fall & Spring	4	Yes	Yes	INFO 530	The course introduces the use of geographic information systems (GISs) in the analysis of public health data. We develop GIS skills through homework and case studies, and particularly address basic GIS operations such as buffering, layering, and spatial queries as well as more advanced GIS capabilities such as geodatabases. In addition to GIS issues we address introductory cartography, and basic statistical aspects of spatial analysis.	Julie Clennon	Elective

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CAPSTONE, THESIS, PRACTICUM								
Course number varies by department <b>Capstone</b>	Fall and Spring	4	No	Yes	None	Must be WASH related. Students who plan to use a WASH-related capstone/thesis/practicum that is not supervised by a CGSW faculty or staff member must fill out a Provisional Approval Form and receive approval from Dr. Joanne McGriff, the CGSW Associate Director. Without this provisional approval, there is no guarantee that the capstone/thesis/practicum will fulfill the certificate requirement. Once approved, the provisional approval form must be turned into the WASH certificate coordinator. <a href="#">Kathleen Peters</a>	Varies because an advisor must be selected.	Capstone
Course number varies by department <b>Thesis</b>	Fall and Spring	4	No	Yes	None	Must be WASH related. Students who plan to use a WASH-related capstone/thesis/practicum that is not supervised by a CGSW faculty or staff member must fill out a Provisional Approval Form and receive approval from Dr. Joanne McGriff, the CGSW Associate Director. Without this provisional approval, there is no guarantee that the capstone/thesis/practicum will fulfill the certificate requirement. Once approved, the provisional approval form must be turned into the WASH certificate coordinator. Kathleen Peters ( <a href="mailto:kpeter5@emory.edu">kpeter5@emory.edu</a> ).	Varies because an advisor must be selected.	Thesis
Course number varies by department: <b>Practicum</b>	Fall and Spring	N/A Graduation Requirement	Yes	Yes	None	Must be WASH related. Students who plan to use a WASH-related capstone/thesis/practicum that is not supervised by a CGSW faculty or staff member must fill out a Provisional Approval Form and receive approval from Dr. Joanne McGriff, the CGSW Associate Director. Without this provisional approval, there is no guarantee that the capstone/thesis/practicum will fulfill the certificate requirement. Once approved, the provisional approval form must be turned into the WASH certificate coordinator. Kathleen Peters ( <a href="mailto:kpeter5@emory.edu">kpeter5@emory.edu</a> ).	Varies because an advisor must be selected.	Practicum