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Graduate Programs in Global Public Health

School of Sciences and Engineering
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Facilities

In support of I-GHHE's academic and research activities, to date, a state-of-the-art laboratory for Environmental Assessment of Risks and Toxics on Health (EARTH) complements the biomedical and public health curricula, providing opportunities for fieldwork, community engagement at the grassroots levels and bringing together engineers, hygienists, 'omists, microbiologists and toxicologists. The Central Neuromics and Sequencing Laboratory (CNS Laboratory) is established as a tissue bank and analysis facility in support of genomic and metabolomic environment interactions in a socioeconomic and demographic context. The Center for Applied Research on the Environment and Sustainability (CARES) provides opportunities for urban, rural and desert community engagement through the implementation of science, engineering, social, economic and policy research, focusing on the water-energy-food (WEF) nexus with the integration of health and nutrition. This evidence-based approach to decision-making, and its focus on leadership and management, is the foundation of sound and sustainable policy and regulation.

What Can I Do with a Degree in Global Public Health?

As many as the letters of the English alphabet (less two), there are areas where a public health professional can be found. From **A** for academics, **B** for biostatistician, **C** for communicable disease specialist, **D** for diagnostician, **E** for environmental scientist or epidemiologist, **F** for food safety officer, **G** for governmental consultant, **H** for healthcare administrator, **I** for informaticist, **K** for knowledge counselor, **L** for laboratory technologist, **M** for maternal health specialist, **N** for nurse educator, nutrition counselor and neurotoxicologist, **O** for operations manager, **P** for pharmacogenomist, patient advocate, policy consultant, **R** for researcher, **S** for safety officer, **T** for toxicologist, **V** for vaccine specialist, **W** for workplace safety specialist, **Y** for youth health counselor.

A survey of job opportunities in Egypt, MENA and Africa identified opportunities with the United Nations' World Health Organization (WHO), the UN Food and Agriculture Organization (FAO), Save the Children, Doctors without Borders, international chemical and pharmaceutical companies, diagnostic laboratories, and many governmental and nongovernmental organizations (NGOs). Where you go and what career choice you make is limited only by your academic background and interests. You are the P(erson) in Public Health residing on this Globe. Make a difference!

Why Choose Global Public Health at AUC?

I-GHHE provides a unique venue for students of diverse backgrounds, not seen in traditional medical school-based programs. It also recognizes the interplay between the social, behavior and biomedical sciences for informed, evidence-based policy. The juxtaposition of health and sustainability, as well as precision health concentrations, are the first of their kind!

"Responsible stewardship for our planet and global community starts with knowledge. It is not remediation of health catastrophe that will define heroism, but rather the unsung men and women who prevent health catastrophes from taking place."



What is Precision Health?

While personalized, or precision medicine, focuses on tailoring therapeutic treatments to a patient's individual characteristics, **precision health** extends to the socioeconomic and demographic context of health by gathering information on genetics, biomarkers and lifestyle – including occupation and environmental factors – to arrive at a model of risk and its mitigation or prevention and to inform policy and intervention. Within I-GHHE, this includes fieldwork, development of diagnostic markers, genomics and gene-environment interaction, as well as big data informatics.

What is Public Health Policy and Management?

Health policy and management is a multidisciplinary field concerned with evidence-based strategies of intervention through effective delivery, quality and economics of health care for individuals and populations. It may also include crisis management of epidemics, pandemics and regulation of infectious or toxic agents. Students are trained in a variety of subjects, including the structures of health care delivery globally and the legal and ethical foundations for health care, as well as policy processes designed to improve health care access. Communication skills to take on leadership roles are developed and emphasized.

Will I Have to Do Research and Write a Thesis/Dissertation?

Yes! Both the MPH and PhD are research-oriented programs that require developing and defending a proposal, carrying out a research project, analyzing, summarizing and presenting the data in light of our current body of knowledge and under the guidance of the University faculty. For the PhD, projects must be innovative and add to the body of knowledge. The specifics of the project may range from systematic reviews, analyses of data sets, conducting surveys, or the more traditional wet laboratory work or pre-clinical and clinical studies. All student research is expected to undergo a review by the Institutional Review Board (IRB) or the Institutional Animal Care and Use Committee (IACUC) for the ethical conduct of human or animal research, respectively.



THE AMERICAN UNIVERSITY IN CAIRO



Institute of Global Health and Human Ecology



GLOBAL PUBLIC HEALTH GRADUATE PROGRAMS

Master of Global Public Health (MPH)
PhD in Applied Sciences with a Specialization in Global Public Health



The Institute of Global Health and Human Ecology (I-GHHE) is an interdisciplinary academic research department that draws on the many talents of faculty in the natural, biomedical, behavioral and social sciences; engineering; business; and policy to provide sustainable solutions for addressing issues of health and disease prevention. In its **holistic approach**, it recognizes that today's world health challenges are global challenges.



What Is Global Public Health?

Global health is defined as “collaborative trans-national research and action for promoting health for all (improving health and achieving health equity).” **Global public health** recognizes that, in our global community of diversity, it takes diverse expertise and diverse educational modalities to tackle health challenges and empower communities to realize their well-being and rise to their potential.

What is Human Ecology?

Applied human ecology is the branch of knowledge concerned with relationships between human beings and their environments, including the built environment. Among the contributing disciplines are sociology, anthropology, geography, economics, psychology, political science, philosophy and the arts. It also incorporates engineering, planning, architecture, landscape architecture (built environment), conservation (sustainability) and public health.

Who Chooses a Career in Public Health?

In a 2014 Center for Disease Control and Prevention (CDC)-commissioned study [Am J Prev Med 2014;47(5S3):S314–S323], the taxonomy of the public health workforce identifies not only physicians but pharmacists, veterinarians, dentists, nurses, laboratory diagnosticians, engineers, biologists, chemists, biomedical, social and behavioral scientists, economists, statisticians, and governmental professionals as constituting essential participants in public health. **This is reflected in the students eligible for admission to the Master of Global Public Health (MPH) and PhD in Applied Sciences with a Specialization in Global Public Health programs at AUC.**

How Long Are the Programs?

The MPH program is a minimum of **42 credits** as recommended by the Council on Education for Public Health (CEPH) and the Association of Schools and Programs of Public Health (ASPPH). The MPH may be completed in a minimum of two years, but on average, it takes two and a half years. The PhD program, in compliance with AUC's PhD in Applied Sciences, is 72 credits. Depending on the student's master's, up to 24 credits may transfer to the PhD, on a case-by-case basis. The PhD typically takes a minimum of four years to complete.

What will I study?

Common to all program concentrations and levels are the “core knowledge areas” identified by the U.S. accrediting body, the CEPH and the ASPPH, core competencies in public health. These include biostatistics, epidemiology, social and behavioral sciences, health services administration and environmental health sciences, and are delivered through **the core courses: biostatistics, epidemiology, environmental and occupational health, bioethics and global health communication and society.** In addition, all students take the Graduate Thesis Seminar. This comprises 18 credits of either program. Directed electives are based on the student's background.



The MPH and PhD programs provide postgraduate education to prepare students for a career in several essential and innovative areas of interdisciplinary specialization through a sound foundation in the core competencies and the biomedical, engineering and data sciences. The programs also recognize the need of the practitioner to be cognizant of the social, behavioral, policy and regulatory dimensions of public health in the regional and global context of today's world. This program, through its translatable knowledge perspective, will prepare practitioners for a mission of innovation, implementation, education and service as global citizens committed to health and disease identification, mitigation and prevention. This is essential to meet global public health workforce needs in our region.

Mission, Core Values and Objectives

The mission of the global public health programs is to prepare graduates to advance the public's health through research, education, health promotion and the improvement of health outcomes of populations and individuals domestically and globally by fostering the critical thinking, leadership and decision-making of a knowledgeable workforce and scholars.

- 1. Implement a competency-based curriculum and systematic assessment to ensure that graduates are prepared with the knowledge, values and skills to assume leadership roles in global public health, as researchers and practitioners.
- 2. Integrate experiential inter-professional teamwork with social and global perspectives into coursework, fieldwork and thesis projects designed to foster the development of core public health competencies and a commitment to achieving health equity in community service in diverse communities.
- 3. Link public health research and practice by engaging faculty, students, public health and medical professionals and the community in conducting public health scholarly projects and applied research designed to advance the field and practice.
- 4. Establish a synergy between disciplines with the focus of translation, implementation and assessment outside the classroom.
- 5. Foster a holistic approach that respects the individual, the public, the global community and the environment to ensure sustainability and responsibility and accountability. Actuary (No. 10)



Admission

A bachelor's degree in the sciences, medicine, dentistry, veterinary medicine, pharmacy, nursing or engineering with a minimum GPA of 3.0 out of 4.0, or equivalent, is required for admission into the MPH program. An earned Master of Science or MPH from an accredited institution is required for the PhD-PH program. Qualified students with backgrounds in the social and behavioral sciences, policy, management, business and arts will be admitted into selected tracks but are subject to the core curriculum. Admission is also subject to the general University requirements for graduate or PhD programs. For students whose grade records indicate promising ability, but who otherwise may lack adequate preparation in sciences, biomedicine or engineering, admission may be granted under the requirement that additional probationary courses will be taken.

The Core 18 Credits (cr)

- GHHE 000/5110 - Biostatistics (3 cr)
- GHHE 000/5120 - Introduction to Epidemiology (3 cr)
- GHHE 000/5130 - Environmental and Occupational Health (3 cr)
- GHHE 000/5140 - Bioethics in Research (3 cr)
- GHHE 000/5150 - Global Health Communication and Society (3 cr)
- SCI 000/5940 - Graduate Thesis Seminar (3 cr)
- GHHE 000/5160 - Thesis Research

Concentrations

Both the MPH and PhD offer concentrations (depending on the student's background) in **environmental health, precision health and global public health and management.** The Institute of Global Health and Human Ecology (I-GHHE) and its program philosophy encourage community engagement through implementation and education.

What is Environmental Health?

Environmental health is the science and practice of preventing human injury and illness and promoting well-being by identifying and evaluating internal and external environmental sources and agents and limiting exposures to hazardous physical, chemical and biological agents in air, water, soil, food, and other environmental media or settings that may adversely affect human health. It includes environmental health and safety, sometimes referred to as industrial hygiene; environmental toxicology, which focuses on natural and industrial chemical agents and their adverse effects (e.g., carcinogens, neurotoxins); and ecotoxicology and sustainability.