

Criterion 2

Instructional Programs

2.9 Academic Degrees

CEPH Criterion

If the school also offers curricula for academic degrees, students pursuing them shall obtain a broad introduction to public health, as well as an understanding about how their discipline-based specialization contributes to achieving the goals of public health.

CEPH Required Documentation

- a. Identification of all academic degree programs, by degree and area of specialization. The instructional matrix may be referenced for this purpose.
- b. Identification of the means by which the school assures that students in research curricula acquire a public health orientation. If this means is common across the school, it need be described only once. If it varies by degree or program area, sufficient information must be provided to assess compliance by each program.
- c. Identification of the culminating experience required for each degree program. If this is common across the school's academic degree programs, it need be described only once. If it varies by degree or program area, sufficient information must be provided to assess compliance by each program.
- d. Assessment of the extent to which this criterion is met.

2.9.a. Academic Degree Programs

Required Documentation: *Identification of all academic degree programs, by degree and area of specialization. The instructional matrix may be referenced for this purpose.*

Table 2.1.a. (Instructional Matrix) identifies all academic degree programs by degree and area of specialization.

2.9.b. Assuring a Public Health Orientation

Required Documentation: *Identification of the means by which the school assures that students in research curricula acquire a public health orientation. If this means is common across the school, it need be described only once. If it varies by degree or program area, sufficient information must be provided to assess compliance by each program.*

The School of Public Health has developed a set of core competencies that are intended to assure that students enrolled in academic degree programs graduate with a broad public health perspective (see Appendix 2.6.c. for master's and doctoral program competencies). Culminating experiences further strengthen these students' public health orientation. Academic degree programs also offer students multiple opportunities to engage in cross-disciplinary research activities. The following sections describe courses in each department that contribute to a broad public health perspective for students whose primary focus is research.

Biostatistics

The MS and PhD programs in BIOS provide research-oriented training in the theory and methodology of biostatistics and its application to the solution of problems in the health sciences. BIOS takes four steps to ensure that these students receive adequate exposure to public health, requiring: at least 9 credit hours of coursework in a supporting program area that includes EPID 600 (Principles of Epidemiology) or EPID 710 (Fundamentals of Epidemiology); a field observation course (BIOS 691) to observe and evaluate major nonacademic biostatistical programs at various institutions in the Research Triangle area; a public health practicum (BIOS 842) that prepares students to consult with clients working in public health, with a focus on developing and practicing skills in communication, session management, problem formulation, data analysis, report writing, and oral presentations; and training in research ethics.

Environmental Sciences and Engineering

All ESE graduate students, including MS, MSEE, and PhD degree candidates, are required to take two courses: ENVR 400, In-House Seminar, and ENVR 401, Unifying Concepts. Both courses orient students to concepts in public health. In addition, most students in the MS, MSEE, and PhD programs take courses in other departments in the school, particularly

from BIOS and EPID. Most MS theses, MSEE technical reports, and PhD dissertations also include discussions about the relevance of the research to public health.

ENVR 400 provides weekly seminars (approximately 10 per semester) by PhD students, faculty, and post-docs in ESE as well as faculty from other units who collaborate with ESE faculty and students. Master's students are required to attend 15 seminars and PhD students are required to attend 30 seminars, and they must provide written feedback on half of the required seminars. During academic year 2008-2009, seminar topics included protection of water resources, chemical contaminants in the environment, spatial patterns of microbial pathogens, occupational exposure assessment, global climate change and public health, cardiovascular disease from exposure to zinc in air, genetic susceptibility to diseases, biomarkers of prenatal exposure to arsenic, and costs and benefits of vaccination.

ENVR 401 is offered as a series of three-week modules. In addition to a compulsory introductory module, students must complete four modules from a list of 12–14 modules. The modules in ENVR 401 for the 2008-2009 academic year included an introduction to toxicology, toxicogenomics, air pollution, environmental microbiology, water resources management, systems analysis, climate change mitigation, and cost-benefit analysis. Students work in groups of three to six, intentionally mixed with students from different disciplinary backgrounds.

Epidemiology

EPID requires doctoral students to hold the MPH or related professional degree before entering the program. Before a PhD student advances in the department, a faculty committee conducts an Intra-Departmental Review (IDR) with the student, including "Dimensions in the Training of an Epidemiologist." The student is expected to have an appreciation of the origins and goals of epidemiology as the basic science of public health, and of its methods, capabilities, limitations, and contrasts with related fields. Students are to understand basic etiologic and prevention principles which underlie problems in public health. The committee may recommend further course work or other action to ensure the student has the expected training in these areas.

All MSCR students are required to complete a set of core courses that directly contribute to broad public health training and research. This core comprises a BIOS course and five EPID courses; two of the latter include content regarding health behavior, and health policy.

Health Behavior and Health Education

HBHE ensures the public health preparedness of its doctoral students through two means. First, if a doctoral student does not have an MPH, the student is required to take the school's core courses. Second, all first-year doctoral students take a new yearlong modular course, HBHE 815-816 (Empirical, Conceptual, and Theoretical Foundations of Public Health and Health Behavior/Health Education), first offered in fall 2008. The first module is

specifically focused on principles of public health and how HBHE fits within the broader field of public health.

Health Policy and Management

In addition to a master's degree, or equivalent experience, HPM PhD students must have a strong background in statistics, linear (matrix) algebra, calculus, and computer programming or they are required to take the department's approved substitute for the school's core biostatistics course, HPM 470 (Statistical Methods for Health Policy and Administration), during their first semester. The other two prerequisite courses are Evolution, Organization and Financing of the U.S. Health System (HPM 564), and Principles of Epidemiology (EPID 600 or equivalent).

Maternal and Child Health

To assure a firm public health foundation, MCH PhD students must have an MPH in Maternal and Child Health. Qualified applicants without an MPH in Maternal and Child Health may enroll in the PhD program, but the department requires them to complete its year-long master's core course, Foundations of Maternal and Child Health (MHCH 701-702), or have a record of equivalent courses or knowledge. In addition, all first-year PhD students must take a yearlong doctoral seminar in Foundations of Maternal and Child Health (MHCH 801-802).

Nutrition

Nutrition requires that all PhD students enroll in NUTR 875, a policy seminar that provides information on current public health problems as well as the opportunity to learn about strategies to impact public health outcomes. PhD students are also required to take NUTR 600 and NUTR 620, which address the biochemical and genetic bases of major and globally significant public health-related diseases, as well as the four-semester NUTR 885 (Doctoral Seminar), which covers public health topics of importance, including the multiple roles of Vitamin D in chronic disease prevention and the risks and benefits of micronutrient supplementation.

Public Health Leadership

PHL students enrolled in the MS programs for Public Health Nursing, and Occupational Health Nursing, are required to take courses in epidemiology, biostatistics, and environmental sciences and engineering as part of their program.

2.9.c. Culminating Experience Requirements

Required Documentation: *Identification of the culminating experience required for each degree program. If this is common across the school's academic degree programs, it need be described only once. If it varies by degree or program area, sufficient information must be provided to assess compliance by each program.*

As with the school's professional master's degree programs, academic master's degree students must complete a master's paper and a comprehensive examination to obtain the degree. Each department determines the specific requirements for the master's paper and comprehensive exam (see table 2.5.a.).

All of the school's PhD programs require written comprehensive exams, an oral dissertation proposal defense, a dissertation and an oral dissertation defense following the successful completion of coursework. (In addition, the PhD programs in NUTR require oral comprehensive exams.) Each department determines the structure of its own examinations (written, oral, or both).

2.9.d. Assessment of Academic Degrees

<i>Required Documentation: Assessment of the extent to which this criterion is met.</i>

Strengths

- PhD is offered in all seven departments
- MS degree is offered in three departments
- Adoption of specific ASPH cross-cutting competencies by the school's doctoral programs
- Rigorous culminating experience requirements, monitored by department program directors and the Graduate School

Challenges

- Obtaining agreement upon clear definitions of competencies in academic programs and monitoring their achievement
- Assuring public health orientation in all academic degree programs

Future Directions

- Work with departments and degree programs to develop innovative means to define and implement competencies and public health issues in their degree programs
- Consider more interdisciplinary and cross-SPH training experiences to keep pace with the way people currently study and work conduct research

This Criterion is met.
