PUBLIC HEALTH, MASTER OF (M.P.H.)

Program accreditation
Council on Education for Public Health

Program goal
The mission of the VCU M.P.H. program is to engage students in an experiential and learner-centered environment, collaborate with public health partners in Central Virginia to promote health equity and community wellness and foster lifelong inquiry and discovery in interdisciplinary, translational research that improves human health.

The overall goal of the M.P.H. program is to educate students to become well-grounded in the essential knowledge, skills and attitudes of public health and demonstrate their ability to apply these essentials through course work, internships and the M.P.H. capstone project. This program is designed to provide students with the skills required to advance to positions as public health practitioners in a broad spectrum of positions and settings and who can perform the following:

1. Administer public health programs
2. Collect, analyze and evaluate public health data
3. Plan, implement and evaluate public health interventions
4. Apply results of evaluations and data analyses to policy development as necessary
5. Promote public health through educational campaigns

The structure of the program provides a framework for the progressive development of a mastery of the current state of the subject matter of public health and an ability to synthesize and apply this information to the identification of key areas of practice and research in public health. Students will develop educational competencies outlined by the M.P.H. program. These competencies cover the foundational knowledge necessary for a public health practitioner to both communicate the core of public health knowledge and express the design, results and interpretation of various public health interventions, evaluations, and data collection and analysis efforts to a variety of potential audiences.

Student learning outcomes
1. Integrated knowledge of public health: The candidate will demonstrate an appropriate level of knowledge of the current elements of public health as related to disciplinary specialization and a more detailed understanding of the individual area of scholarship, including an appropriate familiarity with the research literature and the ability to evaluate and critique publications as measured by the rubric.
2. Student progress: M.P.H. program faculty will monitor student progress throughout the program to ensure academic success.
3. Development of competencies: Through program course work and applied experiences, students will develop competencies in public health as demonstrated by assessments of student performance on program competencies (see section that follows).
4. Training in appropriate public health skills/knowledge: Through didactic and applied, experiential teaching, train students in the appropriate knowledge and skills required to perform as public health practitioners and/or researchers.

M.P.H. program competencies: The M.P.H. program trains students to develop the following educational competencies, selected in part from the Association of Schools of Public Health’s “Master’s Degree in Public Health Core Competency Model,” August 2006.

1. Biostatistics:
   a. Explain the role of biostatistics in evidence-based research and the decision-making process
   b. Describe the theoretical concepts behind a number of commonly used statistical methodologies
   c. Apply the appropriate statistical methodology for description and estimation to account for different measurement scales
   d. Draw appropriate inferences from statistical analyses
2. Environmental health sciences:
   a. Describe the direct and indirect human, ecological and safety effects of major environmental features and the approaches to assess, prevent and control risks to human health and safety
   b. Describe genetic, physiologic, psychosocial and environmental justice factors that affect susceptibility to adverse health outcomes following exposure to environmental conditions
   c. Describe federal and state regulatory programs, guidelines and authorities that control environmental health issues
3. Epidemiology:
   a. Identify key sources of data for epidemiological purposes
   b. Apply basic terms and definitions of epidemiology in terms of magnitude, person, time and place
   c. Explain the importance of epidemiology for informing scientific, ethical, economic and political discussion of health issues
   d. Calculate basic epidemiology measures
   e. Evaluate the strengths and limitations of epidemiological reports
4. Health policy and management:
   a. Identify the main components and issues of the organization, financing, access and delivery of health services and public health systems in the U.S. and globally
   b. Describe the legal and ethical bases for public health and health services
   c. Discuss the policy process for improving the health status of populations
   d. Communicate health policy and management issues using appropriate channels and technologies
5. Social and behavioral sciences:
   a. Identify basic theories, concepts and models from a range of social and behavioral disciplines that are used in public health research and practice
   b. Identify the causes of social and behavioral factors that affect health of individuals and populations
   c. Describe steps and procedures for the planning, implementation and evaluation of public health programs, policies and interventions
6. VCU M.P.H. program-specific competencies
   a. Discuss the effect of physical and social environment on health outcomes during the life course
   b. Discriminate between research questions and hypotheses and derive one from the other
   c. Accurately distinguish between epidemiological and biostatistical concepts and apply the appropriate method to analyze a public health research question using appropriate statistical software
d. Access public and private data sets and assess their relevance in addressing a specific public health research question or evaluation need

e. Work effectively in collaborative teams to develop public health projects

f. Distinguish between public health ethics and medical ethics, discussing the values and beliefs inherent to a public health ethics perspective

7. Communication and informatics:

a. Describe how societal, organizational and individual factors influence and are influenced by public health communications

b. Demonstrate effective written and oral skills for communicating with different audiences in the context of professional public health activities

8. Diversity and culture:

a. Explain how professional ethics and practices relate to equity and accountability in diverse community settings

b. Differentiate among availability, acceptability and accessibility of health care across diverse populations

9. Leadership:

a. Engage in dialogue and learning from others to advance public health goals

b. Demonstrate transparency, integrity and honesty in all actions

10. Public health biology:

a. Apply biological principles to development and implementation of disease prevention, control or management programs

11. Professionalism:

a. Apply basic principles of ethical analysis (e.g. the Public Health Code of Ethics, human rights framework, other moral theories) to issues of public health practice and policy

b. Apply evidence-based principles and the scientific knowledge base to critical evaluation and decision-making in public health

c. Promote high standards of personal and organizational integrity, compassion, honesty and respect for all people

d. Distinguish between population and individual ethical considerations in relation to the benefits, costs and burdens of public health programs

e. Appreciate the importance of working collaboratively with diverse communities and constituencies (e.g. researchers, practitioners, agencies and organizations)

12. Program planning:

a. Differentiate among goals, measurable objectives, related activities and expected outcomes for a public health program

b. Differentiate the purposes of formative, process and outcome evaluation

**VCU Graduate Bulletin, VCU Graduate School and general academic policies and regulations for all graduate students in all graduate programs**

The VCU Graduate Bulletin website documents the official admission and academic rules and regulations that govern graduate education for all graduate programs at the university. These policies are established by the graduate faculty of the university through their elected representatives to the University Graduate Council.

It is the responsibility of all graduate students, both on- and off-campus, to be familiar with the VCU Graduate Bulletin as well as the Graduate School website (http://www.graduate.vcu.edu) and academic regulations in individual school and department publications and on program websites. However, in all cases, the official policies and procedures of the University Graduate Council, as published on the VCU Graduate Bulletin and Graduate School websites, take precedence over individual program policies and guidelines.

Visit the Graduate study section for additional information on academic regulations for graduate students. (http://bulletin.vcu.edu/graduate/study/general-academic-regulations-graduate-students)

**Degree candidacy requirements**

A graduate student admitted to a program or concentration requiring a final research project, work of art, thesis or dissertation, must qualify for continuing master’s or doctoral status according to the degree candidacy requirements of the student’s graduate program. Admission to degree candidacy, if applicable, is a formal statement by the graduate student’s faculty regarding the student’s academic achievements and the student’s readiness to proceed to the final research phase of the degree program.

Graduate students and program directors should refer to the following degree candidacy policy as published in the VCU Graduate Bulletin for complete information and instructions.

Visit the Graduate study section for additional information on degree candidacy requirements. (http://bulletin.vcu.edu/graduate/study/general-academic-regulations-graduate-students/degree-candidacy)

**Graduation requirements**

As graduate students approach the end of their academic programs and the final semester of matriculation, they must make formal application to graduate. No degrees will be conferred until the application to graduate has been finalized.

Graduate students and program directors should refer to the following graduation requirements as published in the Graduate Bulletin for a complete list of instructions and a graduation checklist.

Visit the Graduate study section for additional information on graduation requirements. (http://bulletin.vcu.edu/graduate/study/general-academic-regulations-graduate-students/graduation-requirements)

**Other information**

The M.P.H. program student handbook is available upon request.

**School of Medicine graduate program policies**

The School of Medicine provides policies applicable to all programs administratively housed in the school. Information on master’s programs is available elsewhere in this chapter of the Graduate Bulletin.

Apply online at sophas.org (http://www.sophas.org).

**Admission requirements**

<table>
<thead>
<tr>
<th>Degree:</th>
<th>Semester(s) of entry:</th>
<th>Deadline dates:</th>
<th>Test requirements:</th>
</tr>
</thead>
<tbody>
<tr>
<td>M.P.H.</td>
<td>Fall</td>
<td>Jan 15 (strongly recommended)</td>
<td>GRE, TOEFL</td>
</tr>
</tbody>
</table>

In addition to the general admission requirements of the VCU Graduate School (http://bulletin.vcu.edu/graduate/study/admission-graduate-
study/admission-requirements), to be considered for admission, applicants must meet the following requirements:

1. Prior degree: Students must hold a bachelor’s degree from an accredited institution, with a minimum GPA of 3.0 on a 4.0 scale in all undergraduate and any other graduate study. Official copies of transcripts for all prior degrees earned must be submitted to the VCU Office of Graduate Admissions.

2. GRE: Current GRE test results (taken within the past five years), with scores at or above the 75th percentile preferred in all components of the exam (i.e., minimum scores of 159 quantitative, 157 verbal and 4.5 analytical writing).

3. TOEFL: International students must submit TOEFL or IELTS scores. Minimum TOEFL score is 600 (paper-based), 250 (computer-based) or 100 (Internet-based); IELTS minimum score is 7.0. Test score requirements may be waived for international students who have received a medical degree (M.D.) in the U.S. Contact the program coordinator for more information.

Students must also submit the following materials with their applications:

1. Letters of recommendation from three individuals who can assess applicant qualifications for graduate school; at least one academic reference is required, but two are preferred. Most appropriate are letters from past professors or work supervisors.

2. Current version of curriculum vitae or resume. Include experience and/or education relevant to study in public health.

3. Personal statement covering the following issues in two to five pages:
   a. Description of the applicant’s career goals
   b. Why the applicant wishes to pursue an M.P.H. degree
   c. How an M.P.H. degree will help the applicant achieve her/his career goals
   d. Description of applicant’s particular areas of interest in public health (e.g., maternal and child health, cancer epidemiology)
   e. Why VCU’s M.P.H. program best fits the student’s public health interests
   f. What applicant plans to do in the first few years after graduation

Degree requirements
The Master of Public Health program prepares students committed to public health careers in the public, private or nonprofit sectors. Public health works to prevent health problems in populations before these problems occur. The M.P.H. program provides a rigorous curriculum to help students develop the analytic and critical reasoning skills to improve population health. The program boasts experiential learning, a highly interactive environment, accessible and approachable faculty and student involvement in important projects.

In addition to general VCU Graduate School graduation requirements (http://bulletin.vcu.edu/graduate/study/general-academic-regulations-graduate-students/graduation-requirements), a minimum of 45 credit hours of formal course work is required, including:

1. A practicum in year one
2. An internship, typically conducted in the summer between the first and second year
3. A 20-hour community-based learning experience
4. Attendance at public health seminars in years one and two
5. A capstone project planned and implemented in the second year of the program.

The M.P.H. program can be individualized to meet the varied needs and interests of students. The program offers many electives, allowing students to tailor the program to meet educational objectives, and it is flexible enough to accommodate students who enter the program with various backgrounds and experiences. Note that some elective courses may not be available in certain years or may require instructor permission for registration.

Curriculum requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>BIOS 543</td>
<td>Graduate Research Methods I</td>
<td>3</td>
</tr>
<tr>
<td>EPID 571</td>
<td>Principles of Epidemiology</td>
<td>3</td>
</tr>
<tr>
<td>EPID 604</td>
<td>Principles of Environmental Health</td>
<td>3</td>
</tr>
<tr>
<td>HCAP 601</td>
<td>Introduction to Health Policy</td>
<td>3</td>
</tr>
<tr>
<td>SBHD 605</td>
<td>Introduction to Social and Behavioral Health</td>
<td>3</td>
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Program requirements

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<tr>
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<th>Credits</th>
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<tbody>
<tr>
<td>BIOS 544</td>
<td>Graduate Research Methods II</td>
<td>3</td>
</tr>
<tr>
<td>EPID 547</td>
<td>Applied Data Analysis Lab I</td>
<td>1.5</td>
</tr>
<tr>
<td>EPID 548</td>
<td>Applied Data Analysis Lab II</td>
<td>1.5</td>
</tr>
<tr>
<td>EPID 580</td>
<td>Public Health Ethics</td>
<td>1</td>
</tr>
<tr>
<td>EPID 593</td>
<td>MPH Practicum I</td>
<td>2</td>
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Electives
Select a minimum of 15 credit hours of elective course work selected according to the area(s) of interest in public health. These may include the following courses:

- BIOS 571: Clinical Trials
- CCTR 630: Design Implications in Clinical Trials
- EPID 600: Introduction to Public Health
- EPID 601: Contemporary Issues and Controversies in Public Health
- EPID 603: Public Health Policy and Politics
- EPID 606: Epidemiologic Methods
- EPID 620: Cancer Epidemiology
- EPID 622: Maternal and Child Health
- EPID 624: Chronic Disease Epidemiology
- EPID 646: Epidemiology of Psychiatric and Substance Use Disorders
- EPID 648: Behavioral Epidemiology
- EPID 691: Special Topics
- EPID 692: Independent Study
- GRAD 614: Introduction to Grant Writing
- GRAD 510: Physiological Aging
- GRTY 603: Social Gerontology
- GRTY 604: Problems, Issues and Trends in Gerontology
- HEMS 505: Contemporary Issues in Health
- HEMS 550: Exercise, Nutrition and Weight Management
- HEMS 604: Nutrition for Health and Physical Activity
Integrative program requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPID 693</td>
<td>Public Health Internship</td>
<td>3</td>
</tr>
<tr>
<td>EPID 694</td>
<td>MPH Capstone Project</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Hours 45

Total graduate credit hours required (minimum) 45

Public health internship: The public health internship is a supervised experience designed to expose M.P.H. students to a real-world public health practice setting, such as a governmental public health agency or nonprofit organization, requiring them to integrate classroom knowledge and skills in practical applications in a professional environment. Each student intern works with a practice site supervisor who assigns tasks, instructs the student in new skills and evaluates the student’s progress. Students work a minimum of 200 hours in a professional public health organization.

Capstone project: The culminating work in the M.P.H. program is the capstone project. The project is a practical experience that allows the student to apply what has been learned in the didactic components of the curriculum to a focused project. The goal is to enhance the student’s academic experience through the application of public health concepts and skills in a supervised experience. Students are required to synthesize the literature; analyze, assess or evaluate quantitative or qualitative data; and in general apply theory and integrate knowledge gained and principles in situations that approximate some aspects of professional practice. With this mentored experience, students are able to both broaden their skills and hone their proficiency in a specific area of public health. The major product of this culminating experience is expected to vary depending on the educational goals of the student, but could include one of the following:

1. Manuscript suitable for publication in a peer-reviewed journal
2. Comprehensive disease-related report and analysis
3. Policy analysis report
4. Needs assessment for a specific population
5. Development, implementation and analysis of target population surveys
6. Program evaluation

At a minimum, the capstone experience will require the integration of multiple major competencies used by a public health professional. In fulfilling the capstone requirement, each candidate must: (a) submit a formal written paper of sufficient depth and rigor and (b) satisfactorily complete a poster presentation of the project chosen as the basis for the written paper at an appropriate venue (e.g., research forum, refereed conference, etc.) approved by the M.P.H. program director.

Non-didactic program requirements

In addition to course work, students are required to complete the following noncurricular requirements for the M.P.H. degree:

1. Attendance at 12 public health seminars
2. Twenty hours of community-based service-learning

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Program website: epidemiology.vcu.edu/education/mph (http://www.epidemiology.vcu.edu/education/mph)