EPIDEMIOLOGY FOR PUBLIC HEALTH PROFESSIONALS, CERTIFICATE

Epidemiology for Public Health Professionals

OVERVIEW

The timely detection, investigation, control, and prevention of outbreaks and major long-term public health problems require a well-trained and competent epidemiology workforce as a key component of a national public health infrastructure. The Epidemiology Workforce in State and Local Health Departments - United States, 2010 Weekly March 30, 2012/61(12);205-208

Epidemiology is an integral component of public health practice. The discipline aims to provide the basis to prevent disease and promote the health of populations through the study of the occurrence and distribution of health-related states or events, including the study of determinants influencing such states. Professional epidemiologic methods, defined as the application of epidemiologic methods to public health practice, entail the combination of analytical methods and applied epidemiology oriented to problem-solving in public health.

The Epidemiology for Public Health Professionals certificate is designed for mid-career or junior-level practitioners who want to enhance their skills in applied epidemiology to best address public health problems and create solutions in the workplace. The principal areas of professional epidemiology include epidemiologic assessment of public health data, health situation and trend analyses, public health surveillance, and health program impact assessment. These areas are closely linked to the essential public health function and services. This certificate program is intended to provide the concepts, methods, and tools needed for the assessment of health situations and trends of population groups.

EDUCATIONAL OBJECTIVES

Upon completion of the core courses in this certificate program, individuals will have gained specialized knowledge and skills in the application of epidemiologic concepts and methods to public health problems, as follows:

1. Understand the place of epidemiology in public health, specifically how epidemiology is used to identify causes of disease, identify populations at high risk for disease, develop preventative methods, and evaluate public health strategies,
2. Calculate and interpret basic epidemiologic measures of disease frequency, identify sources of data for measuring health outcomes, and identify key aspects of measurement problems,
3. Identify distinguishing features of fundamental study designs, including randomized trials, cohort and case-control studies, birth cohort and ecologic studies, and pre-post and quasi-experimental studies. Students will be able to describe the strengths and limitations of the different study designs and key sources of confounding and bias in epidemiological studies, and
4. Interpret and make inferences from the results of epidemiologic studies.

With regard to the usual functions of public health agencies, students will be able to:

1. Identify the Problem-Solving Framework for measuring the severity of priority health problems,
2. Recognize the role of routine and public health information systems in epidemiologic assessments,
3. Identify tools and measurements used to monitor the quality of performance of public health information systems,
4. Identify the main indicators for measuring the burden of diseases at global, national and local levels,
5. Design health situation analyses: epidemiological profiles and community health status assessments,
6. Interpret measures of health burden, association and effectiveness,
7. Describe the framework of the public health surveillance cycle and sources of information,
8. Design, implement and evaluate disease surveillance systems, and
9. Communicate epidemiological information and synthesis to policymakers, professionals, and lay audiences.

SPONSORING DEPARTMENT

Epidemiology (https://publichealth.jhu.edu/departments/epidemiology/)

ADMISSIONS

Contact information and complete certificate program admissions information are available on the certificate program page (https://publichealth.jhu.edu/academics/epidemiology-for-public-health-professionals-certificate-program/) on the Bloomberg School of Public Health website.

REQUIREMENTS FOR SUCCESSFUL COMPLETION

All required and elective courses must be taken for a letter grade; a minimum grade of C is required in all certificate coursework, and students must maintain a 2.75 or better overall GPA for all certificate coursework.

Students must successfully complete the core courses, demonstrated by full attendance and participation in all course activities and assignments. The student should review the section of the website that addresses completion (https://publichealth.jhu.edu/academics/certificate-programs/requirements-for-successful-completion-of-a-certificate-program/) before completing the certificate program requirements. The student's transcript will not indicate that the certificate was earned until the Notification of Completion has been submitted, verified by the certificate program and processed by the Registrar.

COURSE OF STUDY

The certificate program requires a minimum of 21 term credits comprised of required courses and core elective courses. The certificate curriculum consists of four required courses in epidemiologic methods, and at least two of three core elective courses. Certificate students may take additional elective courses focusing on application of epidemiologic methods to substantive areas, such as infectious diseases and biostatistics methods. Students should check the JHSPH course directory (https://www.jhsph.edu/courses/)to confirm when courses are offered.

Code	Title	Credits
PH.550.860	Academic & Research Ethics at BSPH (All students are required to complete this noncredit online course in their first term of study)	
Students must select either 340.601, 340.721 or 340.751		
PH.340.601	Principles of Epidemiology (typically offered onsite in Summer Institute and Summer Term)	5
PH.340.721	Epidemiologic Inference in Public Health I (typically offered online in 1st, 3rd, Summer and Summer Institute terms and onsite in 1st term)	5
PH.340.751	Epidemiologic Methods 1 (typically offered onsite in 1st term)	5
Students must select either 340.602, 340.722, or 340.752		
PH.340.602	Intermediate Epidemiology (typically offered in Summer Institute and Winter Institute)	3
PH.340.722	Epidemiologic Inference in Public Health II (typically offered onsite and online in 2nd term)	4
PH.340.752	Epidemiologic Methods 2 (typically offered onsite in 2nd term)	5
Students must select either (340.767 and 340.768) or 340.769		
PH.340.767	Professional Epidemiologic Methods: Topics and Methods for Health Situation Analysis (typically offered online in Summer Institute)	2
PH.340.768	Professional Epidemiologic Methods: Decision Making in Health Situation Analysis (typically offered onsite in Summer Institute)	2
PH.340.769	Professional Epidemiology Methods (typically offered onsite in 3rd term)	4
Students must complete either (340.765 and 340.766) or 340.770		
PH.340.765	Professional Epidemiologic Methods: Epidemiologic intelligence and Population Health Assessments (typically offered online in Summer Institute and Winter Institutes)	2
PH.340.766	Professional Epidemiologic Methods: Surveillance (typically offered onsite in Summer Institute)	2
PH.340.770	Public Health Surveillance (typically offered onsite in 2nd term and online in 3rd term and Summer Institute)	3
Required Elective Courses: Students must complete at least two of the following elective courses to complete the certificate program with at least 21 academic credits. Elective substitutions are possible, but require approval in advance from Dr. Carlos Castillo-Salgado. Only one elective course may be substituted		
Students may select either 340.606 or 340.686		
PH.340.606	Methods for Conducting Systematic Reviews and Meta-Analyses (typically offered onsite in 3rd term)	4
PH.340.686	Introduction to Systematic Reviews and Meta-Analysis (typically offered onsite in Summer Institute)	2
Students may select either 340.653 or 340.693		
PH.340.653	Epidemiologic Inference in Outbreak Investigations (typically offered onsite in 1st term)	3
PH.340.693	Investigation of Outbreaks (typically offered onsite in Summer Institute and Winter Institute)	2
Students may select either 320.717 or 340.727		
PH.340.717	Health Survey Research Methods (typically offered onsite in 2nd term)	4
PH.340.727	Introduction to Health Survey Research Methods (typically offered online in 3rd term and onsite in Summer Institute)	2