



## Foundational Competencies

The LSUHSC School of Public Health competencies are informed by the traditional public health core knowledge areas, (biostatistics, epidemiology, social and behavioral sciences, health services administration and environmental health sciences), as well as cross-cutting and emerging public health areas. All MPH graduates will demonstrate the following competencies.

Competency assessments are established in foundational courses that are common to all students, in courses that are required for a concentration and in other educational requirements outside of designated coursework. Both the School of Public Health and each of its programs assess all MPH students on each competency. Assessments are integrated into the individual courses with coursework, in simulations, group projects, presentations, written products and other pedagogic activities. This requirement applies to students completing an MPH in combination with another degree (e.g., joint, dual, concurrent degrees). For combined degree students, assessment may take place in either degree program.

Areas of Competency in Public Health:

### **A. Evidence-based Approaches to Public Health**

1. Apply epidemiological methods to the breadth of settings and situations in public health practice
2. Select quantitative and qualitative data collection methods appropriate for a given public health context
3. Analyze quantitative and qualitative data using biostatistics, informatics, computer-based programming and software, as appropriate
4. Interpret results of data analysis for public health research, policy or practice

### **B. Public Health & Health Care Systems**

5. Compare the organization, structure and function of health care, public health and regulatory systems across national and international settings
6. Discuss the means by which structural bias, social inequities and racism undermine health and create challenges to achieving health equity at organizational, community and societal levels

### **C. Planning & Management to Promote Health**

7. Assess population needs, assets and capacities that affect communities' health

8. Apply awareness of cultural values and practices to the design or implementation of public health policies or programs
9. Design a population-based policy, program, project or intervention
10. Explain basic principles and tools of budget and resource management
11. Select methods to evaluate public health programs

#### **D. Policy in Public Health**

12. Discuss multiple dimensions of the policy-making process, including the roles of ethics and evidence
13. Propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes
14. Advocate for political, social or economic policies and programs that will improve health in diverse populations
15. Evaluate policies for their impact on public health and health equity

#### **E. Leadership**

16. Apply principles of leadership, governance and management, which include creating a vision, empowering others, fostering collaboration and guiding decision-making
17. Apply negotiation and mediation skills to address organizational or community challenges

#### **F. Communication**

18. Select communication strategies for different audiences and sectors
19. Communicate audience-appropriate public health content, both in writing and through oral presentation
20. Describe the importance of cultural competence in communicating public health content

#### **G. Interprofessional Practice**

21. Perform effectively on interprofessional teams

#### **H. Systems Thinking**

22. Apply systems thinking tools to a public health issue

## Foundational Competencies Matrix

Foundational Competencies for MPH	
Competency	* Course number(s)
<b>Evidence-based Approaches to Public Health</b>	
1. Apply epidemiological methods to the breadth of settings and situations in public health practice	EPID 6210
2. Select quantitative and qualitative data collection methods appropriate for a given public health context	BIOS 6100, EPID 6210
3. Analyze quantitative and qualitative data using biostatistics, informatics, computer-based programming and software, as appropriate	BIOS 6100/6200, EPID 6210
4. Interpret results of data analysis for public health research, policy or practice	BIOS 6100/6200, EPID 6210
<b>Public Health &amp; Health Care Systems</b>	
5. Compare the organization, structure and function of health care, public health and regulatory systems across national and international settings	HPSM 6268
6. Discuss the means by which structural bias, social inequities and racism undermine health and create challenges to achieving health equity at organizational, community and societal levels	BCHS 6212
<b>Planning &amp; Management to Promote Health</b>	
7. Assess population needs, assets and capacities that affect communities' health	PUBH 6160
8. Apply awareness of cultural values and practices to the design or implementation of public health policies or programs	BCHS 6212
9. Design a population-based policy, program, project or intervention	BCHS 6212
10. Explain basic principles and tools of budget and resource management	HPSM 6268
11. Select methods to evaluate public health programs	PUBH 6160
<b>Policy in Public Health</b>	
12. Discuss multiple dimensions of the policy-making process, including the roles of ethics and evidence	HPSM 6268
13. Propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes	PUBH 6160
14. Advocate for political, social or economic policies and programs that will improve health in diverse populations	PUBH 6150
15. Evaluate policies for their impact on public health and health equity	HPSM 6268
<b>Leadership</b>	
16. Apply principles of leadership, governance and management, which include creating a vision, empowering others, fostering collaboration and guiding decision making	HPSM 6268
17. Apply negotiation and mediation skills to address organizational or community challenges	HPSM 6268
<b>Communication</b>	
18. Select communication strategies for different audiences and sectors	PUBH 6150
19. Communicate audience-appropriate public health content, both in writing and through oral presentation	PUBH 6150, BCCHS 6212
20. Describe the importance of cultural competence in communicating public health content	PUBH 6150, BCCHS 6212
<b>Interprofessional Practice</b>	
21. Perform effectively on interprofessional teams	PUBH 6150, PUBH 6216, PUBH 6160, PUBH 6600
<b>Systems Thinking</b>	
22. Apply systems thinking tools to a public health issue	HPSM 6268

## Program Concentration Competencies Matrix for MPH

<b>Behavioral and Community Health Sciences Concentration</b>	
<b>Competency</b>	<b>Course number(s) or other educational requirements</b>
1. Prioritize individual, organizational and community concerns, assets, resources and deficits for social and behavioral science interventions and policy change.	BCHS 6213, BCCHS 6214, BCCHS 6215
2. Analyze the role of individual, social and community factors in both the onset and solution of public health problems through intervention or policy change.	BCCHS 6213, BCCHS 6214
3. Design, implement, and interpret program evaluation methods to assess and improve community health programs and/or policies	BCCHS 6213, BCCHS 6215, BCCHS 6216, BCCHS 6230
4. Understand and apply public health methods across multiple levels of influence, specifically using the Social Ecological Model	BCCHS 6214
5. Translate research to public health practice and policy	BCCHS 6215, BCCHS 6214, BCCHS 6230
6. Apply evidence-based public health approaches to examine and respond to behavioral and community health issues in Louisiana	BCCHS 6213, BCCHS 6214, BCCHS 6215, BCCHS 6216

<b>Biostatistics Concentration</b>	
<b>Competency</b>	<b>Course number(s) or other educational requirements</b>
1. Explain the role that probability and statistical distributions play in inferential statistics and decision-making.	BIOS 6200, BIOS 6204, BIOS 6206
2. Advise researchers and public health professionals on translating research questions into testable hypotheses to advance public health.	BIOS 6610, BIOS 6700
3. Prepare appropriate analytic approaches for public health research questions, use corresponding statistical methods to test null hypotheses, and draw conclusions based on the testing results	BIOS 6200, BIOS 6202, BIOS 6206, BIOS 6210, BIOS 6212, BIOS 6610, BIOS 6700
4. Selectively apply hypothesis tests for comparing treatment strategies and exposure groups appropriate to the type of response measurement (e.g., binary, ordinal, continuous)	BIOS 6200, BIOS 6202, BIOS 6206, BIOS 6210, BIOS 6212, BIOS 6610, BIOS 6700
5. Perform power analysis and sample size calculations to aid in the planning of public health studies.	BIOS 6610
6. Communicate to colleagues and clients the assumptions, limitations, and (dis)advantages of commonly used statistical methods and describe preferred methodological alternatives when assumptions are not met.	BIOS 6610, BIOS 6700
7. Use computer software for acquisition, management, analysis of data, and presentation of results.	BIOS 6200, BIOS 6202, BIOS 6210, BIOS 6212, BIOS 6610
8. Create and present oral and written reports of the methods, results, and interpretations of statistical analyses to both statisticians and non-statisticians.	BIOS 6610

<b>Environmental and Occupational Health Sciences Concentration</b>	
<b>Competency</b>	<b>Course number(s) or other educational requirements</b>
1. Collect, analyze, and interpret environmental and occupational health outcomes data.	ENHS 6241, ENHS 6245
2. Examine the direct and indirect human, ecological, and safety effects of environmental and occupational exposures in order to protect the health of workers and the public.	ENHS 6239, ENHS 6241, ENHS 6243
3. Evaluate biological, genetic, physiological, and psychological factors that affect human susceptibility to adverse health outcomes following exposures to environmental and occupational health hazards.	ENHS 6241, ENHS 6246
4. Select appropriate human health risk assessment methods for a variety of environmental and occupational data.	ENHS 6245
5. Recommend corrective strategies for mitigating and preventing environmental and occupational exposures that pose human health and safety risks.	ENHS 6239, ENHS 6243, ENHS 6246
6. Apply knowledge of federal and state regulatory programs, guidelines, and authorities appropriate to environmental and occupational health and safety.	ENHS 6239, ENHS 6243, ENHS 6245, ENHS 6246
7. Apply risk management and risk communication methodologies to address issues of environmental justice, equity, and policy.	ENHS 6245
8. Propose environmental and occupational health promotion and injury prevention strategies for communities and workplaces.	ENHS 6239, ENHS 6241, ENHS 6243

<b>Epidemiology Concentration</b>	
<b>Competency</b>	<b>Course number(s) or other educational requirements</b>
1. Critique the processes involved in the design, analysis and evaluation of an epidemiologic study.	EPID 6211, EPID 6226
2. Distinguish the major sources of bias in epidemiologic research and the ways to evaluate and reduce the bias.	EPID 6211, EPID 6226
3. Apply epidemiologic analyses using linear, logistic, Cox and Poisson regression.	EPID 6211, EPID 6226
4. Evaluate data for confounding and effect modification (interaction)	EPID 6211, EPID 6226
5. Apply the tools of causal inference in epidemiology (e.g. counterfactuals, directed acyclic graphs)	EPID 6211, EPID 6226
6. Appraise the strengths and weaknesses of epidemiologic literature	EPID 6211, EPID 6226
7. Effectively communicate epidemiologic information to diverse audiences in diverse settings.	EPID 6211, EPID 6226

<b>Health Policy and Systems Management Concentration</b>	
<b>Competency</b>	<b>Course number(s) or other educational requirements</b>
1. Apply quality and performance improvement concepts to address organizational and systems performance issues	HPSM 6248, HPSM 6270
2. Demonstrate innovative system management strategies, technology, and communication solutions for health policy and organizational problems.	HPSM 6248, HPSM 6288
3. Appraise the current issues in planning, resources allocation, and financing and their effects on consumers, providers, and payers in a health system.	HPSM 6248, HPSM 6269, HPSM 6270
4. Analyze the impact of political, social, and economic policies on health systems at the local, state, national, and international levels and formulate solutions to key problems.	HPSM 6269, HPSM 6288, HPSM 6270
5. Apply evidence-based management practices to critical evaluation and decision making in health care delivery.	HPSM 6269
6. Propose policy development, analysis, and evaluation processes for improving the health status of populations.	HPSM 6269, HPSM 6288
7. Assess organization behavior and structure for solving organization problems through the lens of system thinking.	HPSM 6248