

**Louisiana State University Health Science Center  
School of Public Health**

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**Master of Public Health Foundational Competencies**

**Evidence-based Approaches to Public Health**

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

**Public Health & Health Care Systems**

- Compare the organization, structure and function of health care, public health and regulatory systems across national and international settings
- 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

**Planning & Management to Promote Health**

- Assess population needs, assets and capacities that affect communities' health
- Apply awareness of cultural values and practices to the design or implementation of public health policies or programs
- Design a population-based policy, program, project or intervention
- Explain basic principles and tools of budget and resource management
- Select methods to evaluate public health programs

**Policy in Public Health**

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

**Leadership**

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

**Communication**

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

### **Interprofessional Practice**

- Perform effectively on interprofessional teams

### **Systems Thinking**

- Apply systems thinking tools to a public health issue

## **Master of Public Health Program Competencies**

### **Behavioral and Community Health Sciences Program Competencies**

- Prioritize individual, organizational and community concerns, assets, resources and deficits for social and behavioral science interventions and policy change.
- Design, implement and evaluate public health programs, policies and interventions.
- Analyze the role of individual, social and community factors in both the onset and solution of public health problems through intervention or policy change.
- Evaluate evidence-based approaches in the development and evaluation of social and behavioral science interventions, studies and programs.
- Examine the cultural, social, and behavioral determinants of health and health disparities.
- Prepare approaches to health promotion issues that take into account cultural differences.

### **Biostatistics Program Competencies**

- Explain the role that probability and statistical distributions play in inferential statistics and decision-making.
- Advise researchers and public health professionals on translating research questions into testable hypotheses to advance public health.
- Prepare appropriate analytic approaches for public health research questions, use corresponding statistics method to test the null hypotheses, and draw conclusions based on the testing results.
- Selectively apply hypothesis tests for comparing treatment strategies and exposure groups appropriate to the type of response measurement (e.g., binary, ordinal, continuous).
- Perform power analysis and sample size calculations to aid in the planning of public health studies.
- 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.
- Use computer software for acquisition, management and analysis of data and presentation of results.
- Create and present oral and written reports of the methods, results and interpretations of statistical analyses to both statisticians and non-statisticians.

### **Environmental and Occupational Health Sciences Program Competencies**

- Collect, analyze, and interpret environmental and occupational health outcomes data.
- 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.
- Evaluate biological, genetic, physiological, and psychological factors that affect human susceptibility to adverse health outcomes following exposures to environmental and occupational health hazards.
- Select appropriate human health risk assessment methods for a variety of environmental and occupational data.
- Recommend corrective strategies for mitigating and preventing environmental and occupational exposures that pose human health and safety risks.
- Exhibit knowledge of federal and state regulatory programs, guidelines, and authorities appropriate to environmental and occupational health and safety.
- Apply risk management and risk communication methodologies to address issues of environmental justice, equity, and policy.
- Propose environmental and occupational health promotion and injury prevention strategies for communities and workplaces.

### **Epidemiology Program Competencies**

- Estimate advanced epidemiologic measures for descriptive and etiologic studies.
- Examine basic ethical and legal principles pertaining to the collection, maintenance, use and dissemination of epidemiologic data.
- Inspect the processes involved in the design, analysis and evaluation of an epidemiologic study.
- Appraise the direction and magnitude of bias on measures of association and draw appropriate inferences from epidemiologic data.
- Apply biological principles to development and implementation of disease prevention, control, or management programs.
- Identify the principles and limitations of public health screening programs.
- Employ statistical computer packages to calculate and display descriptive statistics.
- Analyze categorical data for case control and cohort studies and perform multiple logistic regression analysis and describe the essential elements of survival analysis.
- Examine data for confounding and effect modification, and handle appropriately.
- Evaluate the strengths and limitations of epidemiologic reports and be able to communicate epidemiologic information to lay and professional audiences.

### **Health Policy and Systems Management Program Competencies**

- Apply quality and performance improvement concepts to address organizational and systems performance issues and use "systems thinking" for solving organizational problems.
- Demonstrate leadership skills in public health and communicate health policy and management issues, using appropriate channels and technologies.
- Appraise the current issues in planning, resources allocation, and financing and their effects on consumers, providers, and payers in a health system.
- 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.
- Select evidence-based principles, law and ethics to critical evaluation and decision- making in health care delivery.
- Propose policy development, analysis, and evaluation processes for improving the health status of populations.