PhD Curriculum Map

Upon completion of the PhD in Epi program at the University of Hawai`i, the graduates will demonstrate the ability to:	655 Biost I	656 Biost II	658 Comp Apps in PH	747 Stat Meth Epi Res	663 Epi I	664 Epi II	666 Infect Dis Epi	669 Epi Study Crit	748 Chron Dis Epi	771 Teach Pract	772 Res Pract	800 Diss
Descriptive Epidemiology 1. Apply appropriate epidemiologic techniques and data sources to quantitatively assess patterns and changes in disease occurrence.					P	R	R	R	R			
Biology 1. Discuss how emerging technology in molecular biology and genomics are applied in the study of diseases and conditions.							P	R	R			
Basic knowledge of the leading public health problems and the history of the discipline 1. Explain the central role of causation in epidemiology, including knowledge of various definitions and concepts of causation.					P	R	R	R	R			
2. Apply the principles of screening and of surveillance systems, the concepts of validity and reliability of screening tests, and identify the types of surveillance systems and approaches used in disease surveillance.					P	R		R				
3. Explain how global, cultural, and social contexts of health problems influence the conduct, interpretation, and dissemination of epidemiologic research and intervention studies					P	R		R				
Problem Conceptualization 1. Effectively (a) search, review, critically						P		R			R	R

Competency											
evaluate, and synthesize the scientific literature, (b) identify meaningful gaps in knowledge, and (c) formulate original and key hypotheses or research questions that may lead to new discoveries in epidemiology.											
Study Design											
1. Select and apply epidemiology study designs that are appropriate to address specific research questions or hypotheses.			P	R	R	R	R			R	R
2. Explain how consideration of causal inference, sources of bias, and of sampling, statistical, and other methods can improve the validity of epidemiologic studies.		R	P	R		R					
3. Design research projects that address important population health or clinical questions, using appropriate epidemiologic methods under constraints confronted in practice.									P	R	
4. Develop and constructively critique epidemiologic research proposals and papers.			P			R	R			R	R
Data Collection and Monitoring											
1. Apply the principles and methods of data-collection and data–processing procedures in the design and conduct of epidemiologic research, with sound knowledge of measurement validity and reliability, data quality control, data management, documentation, and security.	R	R		P					R	R	
Data Management											
1. Design, implement, and assess data collection, quality control, and data management procedures for epidemiologic	R	R		P					R	R	

studies.

	1	2	3	4	5	6	7	8	9	10	11	12
Data Analysis 1. Apply state-of-the-art statistical and other quantitative methods in the analysis of epidemiologic data from a variety of sources, including data from large national- and state-level datasets.	P	R	R	R		R					R	R
Interpretation 1. Interpret epidemiologic study results, make appropriate inferences based on results, and recognize the implications of the research results.				R	P	R		R	R		R	R
Communication 1. Communicate clearly and effectively in writing and orally ideas, epidemiologic concepts, methods, results, and implications to scientists, students, policy makers, and the public, including diverse audiences at professional meetings, readers of research journals, grant reviewers, and laypersons. 2. Teach epidemiologic concepts to students at the undergraduate and graduate levels.						P		R			R	R
Ethics 1. Apply ethical principles to (a) behave with integrity and high ethical standards in teaching, research, service, and practice, and (b) protect the welfare and interests of study participants and others contacted by study personnel.					P	R		R		R	R	R
Substantive area 1. Demonstrate mastery of a substantive area of epidemiology, and in this area (a) apply											P	R

relevant epidemiologic theory and methods, and (b) integrate the biological, behavioral, and social mechanisms that operate at multiple levels of causation in conducting original research related to a specific topic.													
Collaboration 1. Participate effectively (a) in multidisciplinary research projects involving epidemiologists, other academic- and community-affiliated public health researchers, basic scientists, and clinicians, and (b) on investigative teams of both scientists and non-scientists (e.g., community members).												P	R