

Table 2.6.1.b PhD Competencies Matrix

PHD in Epidemiology Competencies		PH 655 Biostatistics I	PH 656 Biostatistics II	PH 658 Computer Applications in PH	PH 663 Principles of Epi I	PH 664 Principles of Epi II	PH 665 Infectious Diseases Microbio I	PH 669 Epi Study Design	PH 747 Stat Methods in Epi Research	PH 748 Chronic Disease Epi	PH 771 Teaching Practicum	PH 772 Research Practicum	PH 800 Dissertation Research	
Descriptive Epidemiology	Produce the descriptive epidemiology of a given condition, including case definition, calculation of the primary measures of disease morbidity and mortality, & appropriate comparisons by person, place and time	P			P					R				
	List the strengths & limitations of descriptive studies	P			P	R								
Basic Knowledge of the Leading Public Health Problems and the History of the Discipline	Identify data from existing national & int'l sources	P			P	R								
	Identify major chronic and infectious diseases, their general pathophysiology, descriptive epidemiology and risk factors						P			R				
	Identify leading causes of death				P	P								
	Understand the general history of the development of epidemiology, including the major epidemiological studies of selected diseases					P	P			R				
	Know the principles of screening and of surveillance systems, including understand the concepts of validity and reliability of screening tests and be able to calculate associated measures and know the types of surveillance systems and approaches used in disease surveillance					P	P							
	Understand the global, cultural, and social context of health problems and how these influence the conduct, interpretation, and dissemination of research and intervention studies						P							

PHD in Epidemiology Competencies																											
Data Management	Create data files appropriate for analysis; carry out steps to create new variables, clean the data sets, etc.																										
Data Analysis	Calculate and display descriptive statistics, analyze categorical data, and perform multivariable regression, survival analysis, and longitudinal analysis																										
Interpretation	Examine data for the presence of confounding and interaction (effect modification), identify their presence, and manage them appropriately																										
Communication	Interpret the research results, make appropriate inferences based on results, and recognize the implications of the research results																										
Ethics	Communicate research results orally and in writing to both scientists and non-scientists																										
Substantive Area	Present research data in both tabular & figure forms																										
Ethics	Understand the concepts of human subjects protections & confidentiality, and awareness of particular issues relevant to the study of specific populations																										
Substantive Area	Apply this understanding as evidenced in the design and conduct of their research																										
Substantive Area	Demonstrate mastery of a substantive area, including knowledge and application of that knowledge in conducting original research related to a specific topic																										