GRADUATE PROGRAM IN PUBLIC HEALTH
MPH DEGREE
Evaluative Sciences Concentration Competencies

Concentration Competencies	Concentration Courses				
Demography: Understand basic theories regarding fertility, mortality, and migration transitions in the US and globally.	**HPH 555**	**HPH 560**	**HPH 559**	**HPH 534**	**HPH 564**
Learning Experiences:					
1. Identify the proximate determinants of fertility and the reasons for the fertility transition	██████				
2. Describe general patterns in mortality over time by age and sex	██████				
3. Interpret components of a life table	██████				
4. Explain the household transition including changes in contraceptive use, marital fertility, cohabitation, and female labor force participation	██████				
5. Utilize sources of demographic information from the internet	██████				
Advanced Biostatistics: Formulate a scientific question in terms of a statistical model, leading to objective and quantitative answers.	**HPH 555**	**HPH 560**	**HPH 559**	**HPH 534**	**HPH 564**
Learning Experiences:					
1. Understand regression including details of data-analytic techniques and implications for study design		██████			
2. Understand logistic regression		██████			
3. Understand survival data analysis using proportional hazards models		██████			
4. Perform regression, logistic regression, and survival analysis.		██████			
5. Perform statistical analyses using the data software package STATA		██████			

	HPH 555	HPH 560	HPH 559	HPH 534	HPH 564
6. Evaluate appropriateness of statistical methods used in public health studies.		■			
7. Identify a significant, testable population health-related research question that has not been previously asked or fully developed.		■			
8. Summarize the published literature related to a research question using the recognized sources of health care literature including PubMed and the Cochrane Collaboration.		■			
9. Interpret statistical analyses – descriptive and inferential.		■			
10. Develop written and oral presentations based on statistical analyses for both public health professionals and educated lay audiences.		■			
Spatial Analysis: Develop an understanding and application of spatial analytic techniques for public health applications.	**HPH 555**	**HPH 560**	**HPH 559**	**HPH 534**	**HPH 564**
Learning Experiences:					
1. Become familiar with types of health data appropriate for spatial analyses.				■	
2. Discuss cartographic choices involved in map-making.				■	
3. Compare benefits and limitations of using individual point locations compared with data aggregated within regions.				■	
4. Discuss and apply smoothing techniques using point data and aggregated data.				■	
5. Discuss and apply spatial cluster analyses using point locations and aggregated data.				■	
6. Discuss and apply strategies for linking spatial exposure data to health events.				■	
7. Apply new knowledge base to critique existing literature on spatial analysis of public health data.				■	

Qualitative Methods: Develop knowledge and skills to engage in qualitative research in population health and related fields.	HPH 555	HPH 560	HPH 559	HPH 534	HPH 564
Learning Experiences:					
1. Discuss different epistemological orientations (e.g., positivist, interpretivist, and critical) and their relationship to the various qualitative research approaches, and to ontology more generally.					
2. Practice three methods of qualitative data collection: participant observation, in-depth interviews, and focus groups.					
3. Identify which qualitative research approach and method(s) of data collection are best-suited to answering particular kinds of research questions.					
4. Develop a qualitative research proposal to answer a research question of the student's choosing.					
5. Learn and practice techniques to engender researcher reflexivity.					
6. Practice techniques for collaborative and ethical interaction with research participants.					
7. Describe basic methods of qualitative data analysis, such as open and focused coding, methodological, thematic, and integrative memoing, and triangulation.					
8. Use software available for qualitative data analysis (e.g., ATLAS.ti and MAXQDA).					
Advanced Research Methods: Understand and conduct a research project related to population health from identification of the research question to presentation of results.	HPH 555	HPH 560	HPH 559	HPH 534	HPH 564
Learning Experiences:					
1. Summarize the published literature					

Competency					
1. related to a research question using the recognized sources of population health literature including PubMed and the Cochrane Collaboration.		Secondary	Primary		
2. Identify a testable population health-related research question that has not been previously asked or fully developed.		Secondary	Primary		
3. Explain basic measurement theory, general principles of developing measures for primary data collection, and common health measurement scales.		Secondary	Secondary		
4. Describe the principal methods of data collection including surveys, administrative records abstraction, and qualitative studies.	Primary	Secondary	Secondary		
5. Identify the common secondary data sources for population health research, and analyze a secondary data source.		Secondary	Secondary		
6. Select a secondary data source for a research question.			Primary		
7. Select an appropriate research design and sample to answer a research question.			Primary		
8. Develop appropriate independent and dependent measures for a research question.			Primary		
9. Develop an analysis plan to answer a research question.			Primary		
10. Clean, manage, and prepare data for analysis related to a research question.			Primary		
11. Perform and interpret statistical analyses.	Secondary	Primary	Primary		
12. Develop written and oral presentations based on statistical analyses for both public health professionals and educated lay audiences.	Secondary	Primary			

Legend		Primary Source of Learning Experience		Secondary Source of Learning Experience