

**Master of Science (Public Health Infectious diseases and Epidemiology)**  
**Faculty of Public Health, Mahidol University**

Information on Courses	
1	<b>Course Name: Research Methodology in infectious Diseases and Epidemiology</b>
2	<b>Course code: PHIE606</b>
3	<b>Name(s) of Course Director:</b> Asst.Prof.Dr.Tawee Saiwichai Assoc.Prof.Dr.Manee Chanama Assoc.Prof.Dr.Wisit Chaveepojnkamjorn
4	<b>Rational For the inclusion of the course in the program:</b> This is the required course that designed to encourage students develop their critical thinking, analytical, problem solving, and communication skills in the Master of Science (Public Health Infectious Diseases and Epidemiology).
5	<b>Semester/year Offered : 2/1</b>
6	<b>Credit value: 2 Credits</b>
7	<b>Pre-requisite (if any) : -</b>
8	<b>Objective (s) of Course:</b> Students are expected to : 1. Understand the overview of research on infectious diseases and epidemiology, research ethics in human subjects, research ethics in experimental animals, and laboratory biosafety techniques 2. Conduct literature reviews, online search from academic databases, manage bibliography and plagiarism test 3. Write the research purpose, hypothesis, conceptual framework, methodology and research proposal exercise 4. Select research variables, techniques for data collection, research tools, sampling, sample size calculation, data quality control, data management, appropriate statistics for data analyzation 5. Conduct the research proposal exercise presentation
9	<b>Course learning outcome (CLO) :</b> Upon completion of the course, students are able to 1. Apply knowledge of research ethics in human subjects, research ethics in experimental animals, and laboratory biosafety techniques to research on public health infectious diseases and epidemiology 2. Integrate knowledge of research purpose, hypothesis, conceptual framework,

Information on Courses	
	<p>methodology, defining research variables, techniques for data collection, research tools, sampling, sample size calculation, data quality control, data management, appropriate statistics for data analyzation to research on public health infectious diseases and epidemiology</p> <p>3. Demonstrate skills in literature reviews, online search from academic databases, manage bibliography and plagiarism test</p> <p>4. Communicate information on the interested research through proposal</p>
10.	<p><b>Transferable skill</b></p> <p>Written, oral, problem solving skill, logical thinking skill, analytic thinking, communication skill, information technology skill</p>
11.	<p><b>Teaching and learning assessment strategy:</b></p> <p>Computer-based evaluation by students and course verification by program committee at the end of this course</p>
12.	<p><b>Course description;</b></p> <p>Research questions and designs in infectious diseases and epidemiology, survey research, experimental research, evaluation research, systematic literature review research objectives and hypotheses, research tools, population and samples, sample size, sampling techniques, statistical analysis, research proposal and reports, ethics in human research and animal experiment</p>
13.	<p><b>Teaching methods:</b></p> <p>Interactive lectures, teaching with discussion, demonstration before practice, presentation by students</p>
14.	<p><b>Evaluation methods and types:</b></p> <p>Classroom participation, assignment, rubrics to evaluate the submitting work in network program, report and presentation, examination (final examination)</p>

15. Content outline of the course/module and SLT per topic					
Topic	CLO	No. of Hours			
		Lecture	Practice	SL	TLT
1. Introduction Overview of research in infectious diseases and epidemiology	1, 2	1	2	3	6
2. Research title	1, 2, 3	1	2	3	6
3. Online data search and references management	3	1	2	3	6
4. Writing objectives, research hypotheses.	2	1	2	3	6

15. Content outline of the course/module and SLT per topic					
Topic	CLO	No. of Hours			
		Lecture	Practice	SL	TLT
conceptual framework, study design and methodology					
5. Interim discussion with instructors / practice	2	1	2	3	6
6. Techniques for data collection, research tools in the community and laboratory	2	1	2	3	6
7. Sampling, sample size calculation	2	1	2	3	6
8. Biological laboratory safety / ethical research in experimental animals	1	1	2	3	6
9. Research ethics in human subject	1	1	2	3	6
10. Data quality control, data management	1, 2	1	2	3	6
11. Research report writing	1, 2, 3	1	2	3	6
12. Plagiarism	3	1	2	3	6
13. Interim discussion with instructors / practice	1, 2, 3	1	2	3	6
14. Presentation of the research proposal exercise 1	4	1	2	3	6
15. Presentation of the research proposal exercise 2	4	1	2	3	6
Total		15	30	45	90

Note : SL = self-learning, TLT = total learning time