

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

Information on Courses	
1	Course Name: Ecology and Epidemiology of Infectious Diseases in Public Health
2	Course code: PHIE 601
3	Name(s) of Course Director: 1) Professor Dr. Leera Kittigul 2) Lect. Dr. Varakorn Kosaisavee 3) Lect. Nannapas Bhagaman
4	Rationale For the inclusion of the course in the program: This course is designed to help students develop their critical thinking, analytical, problem solving, and communication skills in the Master of Science (Public Health Infectious Diseases and Epidemiology).
5	Semester/year Offered : 1/1
6	Credit value: 2 credits
7	Pre-requisite (if any) : PHIE500
8	Objective (s) of Course: If students have learned knowledge/subject of the course, then they should be able to : 1. describe natural history of disease, interactions among hosts, etiologic agents, vectors and environment. 2. discuss ecology and epidemiology of infectious diseases. 3. apply biotechnological, immunological, microbiological and parasitological methods in surveillance and prevention of emerging and re-emerging infectious diseases. 4. apply knowledge of epidemiology, public health microbiology, and parasitology in surveillance and investigation of infectious diseases outbreaks. 5. analyze situation and trends in public health infectious diseases.
9	Course learning outcome (CLO) : On successful completion of this course students will be able to: 1. apply knowledge of epidemiology, microbiology, and parasitology in solving public health problems of infectious diseases. 2. integrate knowledge of epidemiology and infectious diseases in surveillance and investigation of infectious diseases. 3. demonstrate skills in analyzing and evaluating the ecological and epidemiological aspects of public health infectious diseases.

	4. communicate information on risks, prevention, and control of emerging and re-emerging infectious diseases.
10.	Transferable skill Critical thinking skill, analytical skill, problem solving skill, and communication skill
11.	Teaching and learning assessment strategy: Computer-based evaluation by students and course verification by program committee at the end of this course
12.	Course description; Ecology and epidemiology of infectious diseases; situation and trend of infectious diseases; interactions among hosts, etiologic agents, vectors and environment; application of biotechnological, immunological, microbiological and parasitological methods in surveillance and prevention of emerging and re-emerging infectious diseases.
13.	Teaching methods: Interactive lectures, teaching with discussion, inquiry-based instruction, case study, scenario-based learning, Role-play
14.	Evaluation methods and types: Classroom participation, assignment, rubrics to evaluate report and presentation Examination (mid-term and final examinations)

15. Content outline of the course/module and SLT per topic

Topic	CLO	No. of Hours			
		Lecture	Practice	SL	TLT
1. Situation and trend of emerging and re-emerging infectious diseases	1, 3	2	0	4	6
2. Ecology and epidemiology of zoonosis in parasitology and entomology	1, 2, 3, 4	2	0	4	6
3. Ecology and epidemiology of zoonosis in microbiology	1, 2, 3, 4	2	0	4	6
4. Ecology and epidemiology of respiratory tract infections	1, 2, 3	2	0	4	6
5. Ecology and epidemiology of parasitic infections in gastrointestinal tract 1 (Soil-transmitted helminth)	1, 2, 3, 4	2	0	4	6
6. Ecology and epidemiology of parasitic infection in gastrointestinal tract 2 (Liver fluke)	1, 2, 3, 4	2	0	4	6
7. Ecology and epidemiology of bacterial	1, 2, 3	2	0	4	6

infections in gastrointestinal tract					
8. Ecology and epidemiology of viral infections in gastrointestinal tract	1, 2, 3, 4	2	0	4	6
9. Ecology and epidemiology of arthropod-borne infection (Scrub typhus)	1, 2, 3	2	0	4	6
10. Ecology and epidemiology of mosquito-borne parasitic infections (Malaria and Filariasis)	1, 2, 3	2	0	4	6
11. Ecology and epidemiology of mosquito-borne viral infections	1, 2, 3, 4	2	0	4	6
12. Ecology and epidemiology of blood-borne and sexually-transmitted infections	1, 2, 3, 4	2	0	4	6
13. Ecology and epidemiology of opportunistic parasitic infections.	1, 2, 3, 4	2	0	4	6
14. Appropriate communication patterns in situation analysis and trend of infectious diseases in surveillance	2, 4	2	0	4	6
15. Outbreaks situation analysis in public health infectious diseases (Student presentation)	1, 2, 3, 4	2	0	4	6
Total		30	0	60	90

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