

Course syllabus

TMMH 504 Important Mosquito-borne Diseases

Academic Year 2018-2022

1. **Institute** Mahidol University
- Faculty/Department** Faculty of Tropical Medicine, Department of Clinical Tropical Medicine
2. **Course Name:**
 - a. **Course Code:** TMMH 504
 - b. **Course Title:** Important Mosquito-borne Diseases
3. **Number of credits:** 3 (3-0-6)
4. **Programme use:** Graduate Diploma Programme in Tropical Medicine and Hygiene
Master of Clinical Tropical Medicine
Master of Clinical Tropical Medicine (Tropical Paediatrics)
5. **Prerequisite:** None
6. **Type of Course:** Core subject
7. **Condition: class size:** None
8. **Session/Academics year:** The first semester of each academic year
9. **Course description:**
Malaria; dengue infection; Japanese encephalitis and lymphatic filariasis; epidemiology; pathogens; mosquito vectors; life cycle; pathogenesis; pathology; clinical manifestations; treatment; prevention and control
10. **Course expected learning outcomes:**
The students should be able to
 - 1) Explain and differentiate type of common mosquito vectors; including residence, epidemiology and life-cycle including prevention and control
 - 2) Explain the causative agents of tropical diseases caused by mosquito-borne diseases; including physical quality, reservoirs, laboratory diagnosis, habitat and distribution, life-cycle, prevention and control
 - 3) Describe clinical manifestations, laboratory findings, complication, treatment and prognosis of common mosquito-borne diseases
 - 4) Approach and discuss the management of mosquito-borne diseases

11. Course outline and constructive alignment

Topic	Title	Hours			Instructors	Course Learning Outcome	Programme ELOs	Teaching & Learning Strategies	Assessment
		Lecture	Lab	Self-study					
1	Epidemiology of mosquito borne diseases	2	0	4	Assoc Prof Pratap	1,2	2	PowerPoint presentation, Q&A	MCQ & Short Essay Examination
2	Mosquito control	1	0	2	Asst Prof Jiraporn	1	2	PowerPoint presentation, Q&A	Discussion, laboratory practice MCQ & Short Essay Examination
3	Mosquito vectors I, II	3	0	6	Asst Prof Ronald	1	2	PowerPoint presentation, Laboratory demonstration, Case Discussion, Q&A	Discussion, laboratory practice MCQ & Short Essay Examination
4	Control of malaria in Thailand	1	0	2	Dr Wichai Stimai/Prof Srivicha	1,2	2	PowerPoint presentation, Q&A	MCQ & Short Essay Examination
5	Human malaria parasite	2	0	4	Assoc Prof Porntip	2	2	PowerPoint presentation, Laboratory demonstration, Q&A	Discussion, laboratory practice MCQ & Short Essay Examination
6	Immunity to malaria infection and vaccine	1	0	2	Prof Srisin	2,3	2	PowerPoint presentation, Q&A	MCQ & Short Essay Examination
7	Pathophysiology of malaria infection	1	0	2	Prof Arjen Dondorp/Assoc Prof Kesinee/Dr Prakaykaew/Dr Natthida	2,3	2	PowerPoint presentation, Q&A	MCQ & Short Essay Examination
8	Pathology and electron microscopy of malaria	2	0	4	Assoc Prof Pampen/Assoc Prof Yaowapa/Asst Prof Urai/Dr Sumate	2,3	2	PowerPoint presentation, Q&A	MCQ & Short Essay Examination
9	Clinical features and management of malaria and its complications	3	0	6	Prof Polrat/Prof Srivicha/Assoc Prof Vipa/Asst Prof Weerapong/Asst Prof Udomsak/Asst Prof Supat/Dr Kittiyod	1,2	2	PowerPoint presentation, Case Discussion, Q&A	MCQ & Short Essay Examination
10	Malaria in pregnancy	1	0	2	Prof Srivicha/Dr Prakaykaew	1,2	2	PowerPoint presentation, Case Discussion, Q&A	MCQ & Short Essay Examination
11	Malaria in children (clinical features and treatment)	1	0	2	Asst Prof Watcharee	1,2	2	PowerPoint presentation, Case Discussion, Q&A	MCQ & Short Essay Examination

Topic	Title	Hours			Instructors	Course Learning Outcome	Programme ELOs	Teaching & Learning Strategies	Assessment
		Lecture	Lab	Self-study					
12	Antimalarial drug, treatment and prevention of malaria infection	2	0	4	Prof Sasithon/Prof Polrat/Asst Prof Noppadon/Dr Prakaykaew/Dr Borimas/Dr Sant	1,2	2	PowerPoint presentation, Case Discussion, Q&A	MCQ & Short Essay Examination
13	Malaria: ward visit and case discussion	3	0	6	Prof Polrat /Prof Srivicha/Asst Prof Weerapong /Assoc Prof Vipa/Asst Prof Udomsak/Dr Kittiyod	1	2	PowerPoint presentation, Case Discussion, Q&A	Discussion
14	Malaria student initiative	2	0	4	Prof Sasithon /Assoc Prof Kesinee /Asst Prof Weerapong /Dr Prakaykaew/Dr Borimas/Dr Sant	1,2,3	2	PowerPoint presentation, Laboratory demonstration, Case Discussion, Q&A	Discussion
15	Dengue virus infection: children	2	0	4	Clin Prof Suchitra	1,2	2	PowerPoint presentation, Case Discussion, Q&A	Discussion, laboratory practice MCQ & Short Essay Examination
16	Dengue virus infection: adult	1	0	2	Prof Terapong Asst Prof Weerapong	1,2	2	PowerPoint presentation, Case Discussion, Q&A	Discussion MCQ & Short Essay Examination
17	Dengue vaccine	1	0	2	Paediatric staff	1,2	2	PowerPoint presentation, Q&A	Practice, MCQ & Short Essay Examination
18	Laboratory diagnosis of viral infection	1	0	2	Dr Pornsawan/Ms Akanitt/Dr Nathamon/Ms Pannamas/Assoc Prof Supatra/Mr Narin	1,2	2	PowerPoint presentation, Laboratory demonstration, Q&A	Discussion, laboratory practice MCQ & Short Essay Examination
19	Dengue: ward visit and case discussion	2	0	4	Asst Prof Weerapong /Asst Prof Supat/Dr Kittiyod/Dr Watcharapong Dr Borimas/Dr Chayasin	1,2,3	2	PowerPoint presentation, Case Discussion, Q&A	Discussion, laboratory practice MCQ & Short Essay Examination
20	Clinical discussion: dengue in children (QSNICH)	3	0	6	Clin Prof Siripen/Assoc Prof Chukiat	1,2,3	2	PowerPoint presentation, Case Discussion, Q&A	Discussion, MCQ & Short Essay Examination
21	Dengue: student initiative	2	0	4	Asst Prof Weerapong /Asst Prof Supat/Dr Kittiyod/Dr Watcharapong /Dr Borimas/Dr Chayasin/Dr Kobporn	1,2,3	2	PowerPoint presentation, Case Discussion, Q&A	Discussion
22	Lymphatic filariasis: clinical aspects	2	0	4	Assoc Prof Yupaporn/Dr Borimas	1,2,3	2	PowerPoint presentation,	Discussion, laboratory practice

Topic	Title	Hours			Instructors	Course Learning Outcome	Programme ELOs	Teaching & Learning Strategies	Assessment
		Lecture	Lab	Self-study					
							Case Discussion, Q&A	MCQ & Short Essay Examination	
23	Filarial parasite	2	0	4	Assoc Prof Paron	2	2	PowerPoint presentation, Laboratory demonstration, Q&A	Discussion, MCQ & Short Essay Examination
24	Japanese encephalitis (viral encephalitis)	1	0	2	Asst Prof Kriengsak/Dr Supawat	1,2,3,4	2	PowerPoint presentation, Case Discussion, Q&A	Discussion, MCQ & Short Essay Examination
25	Emerging and re-emerging mosquito-borne viral infections: Yellow fever, West Nile Virus, chikungunya, Zika, etc.	3	0	6	Dr Wirongrong/Dr Prakaykaew /Dr Kobporn	1,2,3,4	2	PowerPoint presentation, Case Discussion, Q&A	Discussion, laboratory practice MCQ & Short Essay Examination
Total		45	0	90					

12. Teaching and Learning Activities

- Lecture
- Case discussion and seminar/student presentation
- Laboratory demonstration

13. Teaching media

- PowerPoint presentation
- Case Scenario
- Microscope

14. Course achievement and evaluation

- Participation and discussion during academic activity 20%
- Multiple-choice question and short essay examination 80%

Students who get grade lower than B, will need oral re-examination by 2 committees within 2 weeks after first examination. Student who pass the re-examination will get grade B.

15. Course evaluation

- Discussion and comments session at the end of the course
- Questionnaire for contentment and suggestion for the course

16. References

- Guerrant RL, et al. Tropical Infectious Diseases: Principles, Pathogens, & Practice. 2nd ed: Elsevier Inc.; 2006.
- Farrar J, Hotes P, Junghanss T, Kang G, Lalloo D, and White NJ. *Manson's Tropical Diseases*, 23rd ed. Oxford, UK: Elsevier; 2014
- Bennett JE, Dolin R and Blaser MJ. *Mandell Douglas, and Bennett's Principles and Practice of Infectious Diseases*. 8th ed. Oxford, UK: Elsevier; 2014
- Anthony SF, Braunwald E, Kasper DL, and Hauser SL. *Harrison's Principles of Internal Medicine* 17th ed; 2008.

17. Instructors:

- Prof Yaowalark Sukthana
- Prof Polrat Wilairatana
- Prof Srivicha Krudsood
- Prof Sasithon Pukrittayakamee
- Assoc Prof Yupaporn Wattanagoon
- Assoc Prof Porntip Petmitr
- Assoc Prof Chukiat Sirivichayakul
- Assoc Prof Parnpen Viriyavejakul
- Assoc Prof Paron Dekumyoy
- Assoc Prof Vipha Thanachartwet
- Asst Prof Weerapong Phumratanaprapin
- Asst Prof Supat Chamnanchanunt
- Asst Prof Teera Kusolsuk
- Asst Prof Viravarn Luvira
- Asst Prof Dorn Watthanakulpanich
- Asst Prof Watcharee Chokeyindachai
- Asst Prof Kriengsak Limkittikul
- Asst Prof Porntip Petmitr

Asst Prof Raweerat Sitcharungsi
Dr Chatporn Kittittrakul
Dr Watcharapong Piyaphanee
Dr Wirongrong Chierakul
Dr Supawat Chatchen
Dr Supaluk Popruk
Dr Aongart Mahittikorn
Dr Kobporn boonnak
Dr Borimas Hanboonkunopakarn
Lect Rachatawan Chiabchalard

18. Course responsibility:

Dr Prakaykaew Charunwatthana
Department of Clinical Tropical Medicine, Faculty of Tropical Medicine, Mahidol University