

## Course syllabus

### TMCD523 Laboratory Methods for Clinical Research

1. **Institute** Mahidol University  
**Faculty/Department** Faculty of Tropical Medicine, Department of Clinical Tropical Medicine
2. **Course Name:**
  - a. **Course Code:** TMCD 523
  - b. **Course Title:** Laboratory Methods for Clinical Research
3. **Number of credits:** 1 (1-0-2)
4. **Programme use:** Master of Clinical Tropical Medicine
5. **Prerequisite:** None
6. **Type of Course:** Elective Subject
7. **Condition: class size:** minimum 5, maximum 15
8. **Session/Academics year:** The second semester of each academic year
9. **Course description:**

Principle and procedure on sample test and laboratory analyses related to tropical disease.  
Microbiological laboratory, immunodiagnostics, molecular biological and tissue culture
10. **Course expected learning outcomes:**

The students should be able to

  - 1) Explain the laboratory method for clinical research
  - 2) Correctly interpret the result of laboratory analysis
  - 3) Choose appropriate laboratory method for clinical research
  - 4) Apply the knowledge to the laboratory interpretation in clinical research articles

## 10. Course outline and constructive alignment

Day	Title	Hours			Instructor	Course Learning Outcome	Programme ELOs	Learning Activities	Assessment
		Lecture	Lab	Self-study					
1	Principle of Clinical Laboratory Medicine	2	0	4	Assoc Prof Kesinee	1,2,3,4	2.1,3.1	PowerPoint Presentation Discussion/Seminar	Attendance, Student participation, discussion
2	Identification of Malaria Parasites	2	0	4	Assoc Prof Kesinee	1,2,3,4	2.1,3.1	PowerPoint Presentation Discussion/Seminar	Attendance, Student participation, discussion
3	Diagnostic Pathology	3	0	6	Assoc Prof Pampen	1,2,3,4	2.1,3.1	PowerPoint Presentation Discussion/Seminar	Attendance, Student participation, discussion
4	Diagnostic Clinical Chemistry	2	0	4	Assoc Prof Wattana	1,2,3,4	2.1,3.1	PowerPoint Presentation Discussion/Seminar	Attendance, Student participation, discussion
5	Diagnostic Helminthic Infections	2	0	4	Assoc Prof Paron	1,2,3,4	2.1,3.1	PowerPoint Presentation Discussion/Seminar	Attendance, Student participation, discussion
6	Diagnostic Microbiology	3	0	6	Asst Prof Narisara	1,2,3,4	2.1,3.1	PowerPoint Presentation Discussion/Seminar	Attendance, Student participation, discussion
	<b>Total</b>	15	0	30					

**11. Teaching and Learning Activities**

Lecture  
 Group discussion/Seminar  
 Laboratory demonstration and practice

**12. Teaching media**

Powerpoint presentation  
 Laboratory specimens  
 Microscopes

**13. Course achievement and evaluation**

<sup>1</sup> Attendance of academic activity	40%
Participation and appropriate discussion in class	40%
Final Examination	20%

Note<sup>1</sup> Students must attend at least 80% of all activities.

**14. Course evaluation**

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

**15. References**

- 15.1 Gail L Woods, Yezid Gutierrez. Diagnostic Pathology of Infectious Diseases, 1993. Pennsylvania. USA.
- 15.2 Ronald A Sacher, Richard A McPherson. Widman's clinical interpretation of laboratory tests. 10<sup>th</sup> edition. 1991, Philadelphia, USA.
- 15.3 Davids JM. Basic Cell Culture, 2002, Oxford.U.K.
- 15.4 Schmidt G.D. and Roberts LS. Foundations of Parasitology 2000. USA.

**16. Instructors:**

Assoc Prof Kesinee Chotivanich  
 Assoc Prof Parnpen  
 Assoc Prof Paron Deekumyoy  
 Assoc Prof Wattana Leowattana  
 Asst Prof Narisara Chantratita

**17. Course responsibility:**

Assoc Prof Kesinee Chotivanich  
 Department of Clinical Tropical Medicine, Faculty of Tropical Medicine, Mahidol University