

SCBM331 Medical Bacteriology

2 (1-3-4) Credits

2018 Course Syllabus

Course duration: November 21 until December 17, 2018

Time and location: Lectures in SC1-160; Lab in SC3-400 or SC1-351

Instructors:

Assistant Professor Dr. Soraya Chaturongakul (Course coordinator: soraya.cha@mahidol.ac.th)

Professor Prasit Palittapongarnpim, Dr. Pravech Ajawatanawong, Assistant Professor Dr. Fabien Loison, Chanita Napaswad, Atsadang Boonmee, Nalumon Thadtapong, Junyaluck Rukit, Sumalee Chanchai

Recommended reading:

Medical Microbiology (Eighth Edition) by Murray, P.R., Rosenthal, K.S., Pfaller, M.A. 2016.

Grading system:

Attendance and Participation 10%

Laboratory, Journal discussion, and Flipped classroom 55%

Final exam 35%

A: 91-100; B+: 81-90; B: 71-80; C+: 61-70; C: 50-60; F: Below 50

Course policy:

- * Attendance – Students must attend at least 75% of the time to qualify for the final exam. Fifteen minutes late to the class is considered absent.
- * Participation is strongly encouraged. Please refrain from phone use (or other electronic devices) during class (unless used for soft file access and scientific search).

* Labs are performed in groups but lab reports are written (**by hand**) individually. Plagiarism or copy-and-paste from others will result in 0 point for that report (or quiz/exam).

Lab report 1 is due on November 23.

Lab report 2 is due on November 28.

Lab report 3 is due on December 3.

Lab report 4 is due on December 7.

Date and time	Topic	Instructor
Wednesday November 21		
08:30-09:20: Lecture 1	Introduction to medical bacteriology	SCC
09:30-10:20: Lecture 2	Diagnostic approaches	SCC
10:30-11:20: Lab 1.1	Bacterial isolation-specimen and isolation media	SCC/CN/AB/NT/JR/SC
11:30-12:20: Lab 1.1		
Thursday November 22		
08:30-09:20: Lecture 3	Microbiota: role in health and disease	SCC
09:30-10:20: Lecture 4	Microbial metabolomics	SCC
10:30-12:20: JC1	Outbreak genomics	SCC
11:30-12:20: JC1		
Friday November 23		
08:30-09:20: Lecture 5	Bacterial systematic: classical and molecular approaches	PA
09:30-10:20: Lab 1.2	Bacterial identification-biochemical test	SCC/CN/AB/NT/JR/SC
10:30-11:20: Lab 1.2		
11:30-12:20: Lab 2.1	Molecular identification-PCR	SCC/CN/AB/NT/JR/SC
Monday November 26		
08:30-09:20: Lecture 6	Bacterial genetics I: DNA replication, mutation, and repair	SCC
09:30-10:20: Lecture 7	Bacterial genetics II: gene expression	SCC
10:30-11:20: Lab 2.2	Molecular identification-Gel electrophoresis, and imaging	SCC/CN/AB/NT/JR/SC
11:30-12:20: Lab 2.2		
Wednesday November 28		
08:30-09:20: Lecture 8	Bacterial genetics III: gene transfer	SCC
09:30-10:20: Lecture 9	Bacterial diseases	PP
10:30-11:20: Lecture 10		
11:30-12:20: Lecture 11		
Thursday November 29		

08:30-09:20: Lecture 12	Superbugs and antibiotic resistance	SCC
09:30-10:20: Lecture 13	Therapeutic approaches to infections	SCC
10:30-11:20: JC2	Microbiome: role in health and disease	SCC
11:30-12:20: JC2		
Friday November 30		
08:30-09:20: Lab 3.1	Antibiotic susceptibility tests: disk diffusion and microdilution	SCC/CN/AB/NT/JR/SC
09:30-10:20: Lab 3.1		
10:30-11:20: Lab 4.1	Gene transfer in bacteria: transformation, conjugation, and transduction	SCC/CN/AB/NT/JR/SC
11:30-12:20: Lab 4.1		
Monday December 3		
08:30-09:20: Lecture 14	Immune response to bacterial infections	FL
09:30-10:20: Lab 3.2	Antibiotic susceptibility tests: conclusion	SCC/CN/AB/NT/JR/SC
10:30-11:20: Lab 3.2		
11:30-12:20: Lab 3.2		
Wednesday December 5 Holiday (King Bhumibol Adulyadej's Birthday Anniversary)		
Thursday December 6		
08:30-09:20: Lab 4.2	Gene transfer in bacteria: continued	SCC/CN/AB/NT/JR/SC SC1-351
09:30-10:20: Lab 4.2		
10:30-11:20: Lab 4.2		
11:30-12:20: Lab 4.2		
Friday December 7		
08:30-09:20: Lab 4.3	Gene transfer in bacteria: conclusion	SCC/CN/AB/NT/JR/SC
09:30-10:20: Lab 4.3		
10:30-11:20: Lab 4.3		
11:30-12:20: Lab 4.3		
Monday December 10 Holiday (Constitution Day)		
Wednesday December 12		
08:30-09:20: F1	Flipped classroom (topics to be selected by class)	SCC and class
09:30-10:20: F1		
10:30-11:20	Tutorial	SCC

11:30-12:20		
Friday December 14		
08:30-12:20	EXAM	