

## SEMESTER I & II

### LSM2291 FUNDAMENTAL TECHNIQUES IN MICROBIOLOGY

**Prerequisite:** LSM1101 or LSM1102 or LSM1103

**Workload:** 13 lecture hours + 32 laboratory hours

This module gives an overview of microbial diversity, the biological properties of microbes, methods and approaches in the study of microbiology. At the end of the module, students should have fundamental knowledge of microbiology, including tools in the study of cells and microbes and the awareness of biosafety, and students should be excited by the microbial world and wishing to know more.

S/N	Topics	Lecture hours	Practicals
1.	Introduction to the diversity of microbial world and phylogeny	2h (Sem 2: A/P Sim TS)	
2.	Biosafety	1h (Sem 2: A/P Justin Chu)	
3.	Isolation and identification of microbes	4h (Sem 2: A/P Tan YJ)	
4.	Microbes in the environment: Where are microbes found and why are they there	4h (Sem 2: A/P Sim TS)	
5.	Microbes and immunity	2h (Sem 2: A/P Justin Chu)	
6.	Soil microbiology: Isolation, identification and characterization (antibiotic producers, polysaccharide producers)		8h (Sem 2: A/P Sim TS)
7.	Water-borne pathogens: Isolation, enumeration, physiology and behaviour outside the host		8h (Sem 2: A/P Justin Chu)
8.	Food microbiology: Isolation, enumeration and characterization (yeast, lactic acid bacteria, enteric bacteria)		8h (Sem 2: A/P Justin Chu)
9.	Human skin microbiology: Isolation, are they pathogens?		8h (Sem 2: A/P Justin Chu)
		<b>Lectures:</b>	<b>13h</b>
		<b>Practicals:</b>	<b>32h</b>
		<b>Total hours:</b>	<b>45h</b>

**MODE OF ASSESSMENT:** Continuous Assessment (70%); Laboratories (30%)

**MODULE COORDINATORS:**

**(Semester I)**

A/P Tan Shyong Wei, Kevin Dr Chen Yu Shen, John	(Tel: 6516-6780, E-mail: <a href="mailto:mictank@nus.edu.sg">mictank@nus.edu.sg</a> ) (Tel: 6516-3517, E-mail: <a href="mailto:miccjy@nus.edu.sg">miccjy@nus.edu.sg</a> )
--	--

**(Semester II)**

A/P Chu Jang Hann, Justin A/P Sim Tiow Suan	(Tel: 6516-3278, E-mail: <a href="mailto:miccjh@nus.edu.sg">miccjh@nus.edu.sg</a> ) (Tel: 6516-3280, E-mail: <a href="mailto:micsimts@nus.edu.sg">micsimts@nus.edu.sg</a> )
--	--

**LECTURERS**

**Semester I:**

A/P Tan Shyong Wei, Kevin  
Dr Chen Yu Shen, John

**Semester II:**

A/P Chu Jang Hann, Justin  
A/P Sim Tiow Suan  
A/P Tan Yee Joo