

## Module Information

Module Code	Module Title	Semester	Mod. Credits
LSM4226	Infection and Immunity	1	4

### Module Description

This module aims at providing an in-depth knowledge in the field of host-pathogen interactions, i.e how the immune system deals with pathogens, and how the pathogens deal with the host's immune system.

An introductory lecture series covers the basics in microbiology (bacteriology, virology, parasitology, zoonoses), immunology, vaccinology, and general principles of host-pathogen interactions.

A second set of lectures focuses on two specific infectious diseases covering their pathogenesis, host-pathogens interactions along with the consequences for vaccine and drug design.

The last set of lectures is given by clinicians and professionals, and covers field studies (clinical trials) and patient management.

Tutorials include "journal club", and "problem-based exercise". During Journal Clubs, groups of 4-5 students present orally for 20-30 min on a specific topic revolving around infectious diseases. Problem-based exercise is meant to teach students how to use their fundamental knowledge acquired from various lectures and disciplines, to address a scientific or clinical scenario.

### Eligibility and requirements

Prerequisites (prior knowledge required): prior knowledge in microbiology and immunology is needed. LSM3223 and either LSM3225 or LSM3232

Corequisites: NIL

Precluded modules (if any): NIL

### Instructional methods

The following instructional methods will be employed:

- 1) Lecture
- 2) Tutorial
- 3) Seminar
- 4) Inquiry-based or Research

### Assessment modes

The following assessments will be employed:

For AY2021-22:

- 1) Individual assessment (includes home assignment 30%; final exam 35%): 65%
- 2) Group assessment (oral presentation and written report): 35%

**Contact information for Module Coordinator and other instructors**

Assoc. Prof. Sylvie ALONSO  
 Phone number: 6516 3541  
 Email: [micas@nus.edu.sg](mailto:micas@nus.edu.sg)

**Course content and syllabus**

Refer to module description section above  
 - Basic principles lectures: 20 hours  
 - Disease-specific lectures: 12 hours  
 - Guest lectures (practitioners): 6 hours  
 -Tutorials: 12 hours

**Learning activities**

The following learning activities will be employed to achieve the learning outcomes of knowledge, cognitive skills, generic skills and/or attributes development stated in the 'Intended Learning Outcomes' below:

- |                                  |                           |
|----------------------------------|---------------------------|
| 1) Critical Reading & Critique   | 4) Problem-based Learning |
| 2) Group/Individual Presentation | 5) Report/Essay Writing   |
| 3) Group/Individual Project      |                           |

**Intended Learning Outcomes****Knowledge development**

1. The intent of this Year 4 undergrad module is to equip students with strong understanding of the complex dynamics between pathogens and their host.
2. The tutorials aim at helping students develop problem-solving skills, and the ability to conduct a critical and objective review of a particular topic.

**This module will provide the opportunities to develop the following cognitive skills, generic skills and attributes:**

<b>Very Good Opportunities</b>	<b>Good Opportunities</b>
1) Verbal/Oral Communication 2) Interdisciplinary Thinking 3) Problem-solving & Decision-making 4) Collaboration & Teamwork	1) Written Communication 2) Analytical & Critical Thinking 3) Creative Thinking 4) Planning, Organizing & Management skills

**Required and/or recommended readings**

- 1) Janeway's Immunobiology - 9th Edition - Kenneth Murphy - Casey
- 2) Medical Microbiology - 19th Edition - Elsevier

