

SEMESTER II

LSM3225 – INFECTIOUS DISEASES

Prerequisite: Either pass LSM3223 Immunology (preferred option), or take LSM3223 as a co-requisite

Workload: 50 hours

Students will be taught the basic properties of microbes of medical importance, how they cause disease, how infections are diagnosed and treated and how they may be prevented. Laboratory diagnostic techniques and virulence mechanisms will be emphasised throughout.

Students are reminded that this course is an introduction to medical microbiology and related disciplines. It **contains a considerable amount of didactic teaching**, and students are expected to **familiarize themselves with the names and properties of a number of microbes of medical importance, including disease associations**. It has a high factual content, by design. If you choose to take this course, you are understood to have taken heed of this caveat.

S/N	Topics	Lecture hours
1	<u>Introductory section.</u> 1. Introduction to medical microbiology (MBT) 2. How microbes spread (MBT) 3. How microbes cause disease (MBT)	4
2	<u>Viruses and viral infections.</u> 1. Introduction to virology: basic properties and diagnostic methods (OEE) 2. Viral diseases (OEE) 3. Antiviral therapy (OEE)	8
3	<u>Bacteria and bacterial infections.</u> 1. Introduction to bacteriology: basic properties and diagnostic methods (MBT) 2. Bacterial diseases (MBT) 3. Antibacterial chemotherapy (MBT) 4. Resistance to antibacterial agents (MBT)	10
4	<u>Fungi and fungal infections.</u> 1. Introduction to fungi and laboratory mycology (MBT) 2. Fungal disease (SCS)	4
5	<u>Parasites and parasitic diseases</u> 1. Introduction to protozoa and diagnostic methods (TB) 2. Protozoal diseases (TB) 3. Introduction to helminths (MBT) 4. Helminth diseases (MBT)	6
6	<u>Molecular biology and infectious diseases.</u> 1. Molecular diagnostics: principles (RL) 2. Molecular diagnostics: practice (RL)	3
7	<u>Clinical perspective.</u> 1. A day in the life of a clinical microbiologist (GK)	2
8	<u>Epidemiology of infectious disease.</u> 1. Epidemiology: principles (OEE) 2. Epidemiology: practice and applications (OEE)	3
9	<u>Case presentations/class discussions.</u> (MBT)	2
10	<u>Self-study time</u>	8
Total hours:		50h

TEXTBOOK.

There are many good textbooks in this area. Here are three to consider. Look through bookshop or library copies before you choose which one suits you best. (Always check the publishers' websites before you buy, and make sure you are getting the latest edition.)

- Medical Microbiology. D Greenwood, R Slack, J Peutherer & Barer M (eds) Churchill Livingstone (International edition available) 17th edition 2007.
- Medical Microbiology, 24th edition (Jawetz, Melnick, & Adelberg's Medical Microbiology) GF Brooks *et al* McGraw-Hill Medical, 24th edition 2007.
- Lippincott's Illustrated Reviews: Microbiology. WA Strohl, H Rouse and BD Fisher. Lippincott Williams and Wilkins 2nd edition, 2007.

REFERENCE TEXT

Topley and Wilson's Microbiology and Microbial Infections. 10th edition 2005.
8 volumes: available from Loans Desk, Medical Library for consultation.

RECOMMENDED COURSE SUPPORT MATERIAL

CD-ROM "Medical Bacteriology: an interactive guide to laboratory tests and media" (Tan KSW, Lim CK and Taylor MB, eds) NUS; available from Co-op bookshop.

MODE OF ASSESSMENT:

30% - Continuous Assessment
70% - Final Examinations

MODULE CO-ORDINATOR:

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LECTURERS:

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GUEST LECTURERS:

Dr. Gamini Kumarasinghe (NUH)
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Dr. Timothy Barkham (TTSH)
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