

2.12.1 MIC 2364: VIROLOGY AND IMMUNOLOGY

Pre-requisites: BCM 1341

Credit Units: 3

2.12.2 Purpose of the course;

To train the student on the different types of viruses and how to diagnose and manage diseases they cause.

2.12.3 Expected Learning Outcomes of the Course;

At the end of the course, the student should be able to:

1. Describe the classification and morphology of viruses
2. Outline the mode of transmission, pathogenesis, identification and control of viruses.
3. Explain the classification and mechanism of action of antiviral drugs.
4. Explain viral resistance and appropriate remedial measures
5. Describe the functional organization of the immune system.
6. Explain how the immune system works and its disorders.

2.12.4 Course Content

Virology: Introduction, Classification, reproduction, transmission, pathogenesis, identification and control of viruses. Pathogenesis, diagnosis, control of the following groups of viral diseases: Sexually Transmitted Diseases, Respiratory diseases, ocular disease, skin diseases, gastrointestinal diseases, haemorrhagic fevers, liver diseases, Central Nervous diseases, cancer. **Immunology and Immunopathology.** Introduction. Organisation of the immune system. Innate immunity. Adaptive immunity. Major histocompatibility complex (MHC). Hypersensitivity reactions. Vaccines. Transplantation. Tumor immunology. Immunopathological consequences of parasitic diseases. Autoimmune diseases. Immunodeficiency disorders.

2.12.5 Mode of Delivery;

Lectures, power point presentations, and class discussions. These will take a participatory approach. **Video demonstrations and/or CD-Roms** on Medical Virology and Immunology when available, after the relevant topic has been covered. **Assignment criteria:** Students will be given several individual or group research assignments on topics relevant to the course. These could include lectures, discovery learning, problem-based learning, experimental learning, group-based learning, independent studies and e-learning.

2.12.6 Instructional Materials and/or Equipment;

Lecture notes or power points for presentation; Tutorials; Video demonstrations; CD-Roms; Microscopes; Text books; microbiology charts and atlases.

2.12.7 Course Assessment;

Distribution of Marks

Attendance & Participation 10%

Continuous Assessment Tests /Quizzes (atleast 2 sit in)		20%
Term Paper/Group Assignment or Individual	15%	
Mid-Quarter Exam	25%	
Final Exam	30%	
Total	<u>100%</u>	

Grading

90 – 100	A
87 - 89	A ⁻
84 - 86	B ⁺
80 - 83	B
77 - 79	B ⁻
74 - 76	C ⁺
70 - 73	C
67 - 69	C ⁻
64 - 66	D ⁺
62 - 63	D
60 - 61	D ⁻
00 - 59	F

2.12.8 2.12.8 Core Reading Materials for the Course

Collier, L., Oxford, J., Kellam, P. (2011). Human Virology. 4th Edition. Oxford University Press, Madison Avenue, New York, USA

Owen, J., Punt, J., Stranford, S. (2013). Kuby Immunology (Kindt, Kuby Immunology). 7th Edition. W. H. Freeman & Co., New York

2.12.9 Recommended Reference Materials;

Carter, J., Saunders, V. (2013). Virology: Principles and Applications. 2nd Edition. Wiley, Hoboken, NJ, USA

[Delves](#), P. J., Martin, S. J., Dennis R. Burton, D. R., [Roitt](#), I. (2011). Roitt's Essential Immunology. Wiley, New York

Funke, B. R., Case, C. L., Tortora, G. J. (2012). Microbiology: An Introduction. 12th Edition. Pearson Education International, San Fransisco

Greenwood, D., Slack, R. C., Peutherer, J. F. (2012). Medical microbiology: a guide to microbial infections, pathogenesis, immunity, laboratory diagnosis, and control. 18th Edition. Churchill Livingstone, New York