

LANDMARK UNIVERSITY OMU ARAN
MCB 317 COURSE COMPACT (2015/16)

COLLEGE:	Science and Engineering	
DEPARTMENT:	Biological Sciences	
PROGRAMME(S):	Microbiology	
COURSE CODE:	MCB 317	UNITS: 3
COURSE TITLE:	Immunology	
COURSE LECTURERS:	IROKANULO, E. and NDAKO, J. A.	
SEMESTER:	Alpha	
TIME OF LECTURE:	Thursdays (8 am - 10 am)	
LOCATION:	AO3/MICROBIOLOGY LAB.	

A. Brief Overview of Course

The course MCB 317 entails both cellular and humoral aspects of the immune response especially in relation to microbial agents and infectious conditions. Students are required to attempt and submit any given assignment promptly. Students' knowledge will be examined via continuous assessment and the mid-semester examination which add up up to a maximum mark of 30 and the semester examination which carries a maximum mark of 70, making a total of 100 marks.

B. Course Objectives/Goals

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

- (1) Show understanding of the immune system and how the body is protected by the different components of the immune system.
- (2) Explain the synthesis, structure, functions and characteristics of immunoglobulins.
- (3) Perform some basic immunological assays including agglutination, immunoprecipitation, and ELISA. If time permits and based on the availability of materials some of the HIV testing techniques such as gene amplification and CD4 counts, will be demonstrated.

- (4) Show understanding of the application of immunology (immunization) in Nigeria.

C. Method of Lecture Delivery/Teaching Aids

Classroom teaching including the use of magnetic boards, visual aids such as slide projectors (powerpoint, conventional slides). In all instances, real-life examples will be used to link the classroom training with the students everyday life in the community.

D. Course Outlines

- Week 1: The Immune response, cells and tissues of the immune system (NDAKO)
- Week 2: Structure and synthesis of antibodies (NDAKO)
- Week 3: Antigen-antibody reactions (NDAKO)
- Week 4: Tutorials/Continuous Assessment (NDAKO)
- Week 5: Introduction to molecular and cellular principles of immune responses (IRUK)
- Week 6: Hypersensitivity and Alloantigens on cell surfaces. Autoimmunity (OKOLIE)
- Week 7: Histocompatibility and transplantation antigens (OKOLIE)
- Week 8: Tutorials/Continuous Assessment (OKOLIE)
- Week 9: The therapeutic application of immunology (Immunization) in Nigeria (NDAKO)
- Week 10: Biochemical Methods of Assay, Electrophoresis (ELISA, RIA), Agglutination, Precipitation (NDAKO)
- Week 11: Revision

E. Tutorials

Tutorial questions offered at the meetings are expected to be solved by the students as part of their self-driven study. Also during the tutorial meeting, the students will be offered further opportunities to show that they understand (or do not understand) what have been taught. All these are geared at ensuring the

students get the best possible out of the meetings in order to perform creditably at examinations and beyond.

F. Structure of Programme / Method of Grading

Continuous assessment will take a total of 30 marks while the semester examination will account for 70 marks, totaling to 100 marks (100%).

G. Ground Rules and Regulations

- (1) Attendance is very important. Students should endeavor to attend all classes. Absence of any student on genuine reason should be formally brought to the notice of the course lecturer before the class begins.
- (2) All given tutorials and assignments should be promptly attended to and should be submitted on schedule.
- (3) Eating in class is a bad habit and should be avoided by all means.
- (4) Materials not relevant to the class should be kept safe elsewhere.

H. Topics for Term Paper / Assignment

Assignment, group work and class exercises will be part of every topic. Self-driven study is highly encouraged.

I. Alignment with Goals and Vision of Landmark University

Sound knowledge, which is the backbone of developed and developing countries is much needed in our community today. Whether we look at our community from the local, national, or global perspective, intellectual soundness will help us achieve the following:

- (1) Landmark University is interested in developing highly disciplined students who will make good leaders in the future.
- (2) Because IMMUNOLOGY informs a lot of issues in the life of animals (including humans), sound knowledge of immunology will bear strongly on all life sciences.
- (3) From the unborn to the elderly, immunology studies life as a wholesome unit encompassing the cells/tissues, food and environment.

- (4) At Landmark University, we have opportunity to make major contributions towards the solution of the numerous challenges the country's health systems are having in boosting immunity. This we can achieve through the development of vaccines, immunoglobulins, etc.

J. Contemporary Issues / Industry Relevance

IMMUNOLOGY is the most rapidly advancing field in science and medicine so much so that any textbook up to five years on the shelf is already obsolete. IMMUNOLOGY looks at all the cells/tissues/organs whose normal/abnormal function informs the numerous conditions often culminating in disease. More than every other aspect of science and medicine, employment prospects for skilled immunologists spans agriculture, clinical, food/nutrition, military, ministries, industry and academic-related institutions/centers.

K. Recommended Further Reading

- (1) Roitt's Essential Immunology, 12th Edition by Peter J. Delves, Seamus J. Martin, Dennis R. Burton, and Ivan M. Roitt. Published by Wiley (2011) - Paperback - 560 pages - ISBN 1405196831. This book includes a FREE Desktop Edition
- (2) Cellular and Molecular Immunology by Abul K. Abbas, Andrew H. Lichtman, and Shiv Pillai. Published by Saunders/Elsevier (2011) - Paperback - 545 pages - ISBN 1437715281
- (3) Basic Immunology by Abul K Abbas and Andrew H Lichtman (2nd Edition). Published by Elsevier Health Science (2011)