

**LANDMARK UNIVERSITY OMU ARAN
COLLEGE OF SCIENCE AND ENGINEERING
DEPARTMENT OF BIOLOGICAL SCIENCES**

Alpha Semester 2014/15

COURSE COMPACT MCB 412

College: Science and Engineering

Department: Biological Sciences

Programme: Microbiology

Course Code: MCB 412

Course Title: Medical and Veterinary Microbiology (2 Units)

Course status: Compulsory

Course Lecturer/s: Dr. E. O. Irokanulo

Semester: Alpha

Course Duration: Two hours per week for 14 weeks (28 hours): Tuesday 2 – 4pm

Location of Lecture: MCB lab

Lecturer Data: Dr E O. Irokanulo, (PhD Applied Microbiology)

E-mail: irokanulo.emenike@lmu.edu.ng

Office Location: CSE Building 3rd Floor Rm A312

Consultation Hours: Monday – Fridays (Lecture free hours not later than 6pm)

Brief Overview

The course will introduce and shed light on aspects of disease aetiology noting the various types of etiologic agents, their modes of infection and relationships with humans and animals. The course will also seek to provide students with fundamental information and training on the Principles of Infectious Diseases, Herd immunity (and its importance in disease outbreaks),

human and animal microbiota and diagnosis of infectious diseases caused by bacteria, fungi and viruses.

Course Objective / Goals

To develop individual confidence and capacity of students to work with opportunistic microorganisms and pathogens for the benefit of man.

- To understand the principles that guide infections by bacteria, fungi and viruses.
- Acquire techniques for identification and characterization of microbial disease agents

Method of Lecture Delivery:

- Teaching with audio-visual aids,
- Inter- group debate and discussions
- Tutorials and practical sessions

Course Outline

	Course Content	Teacher
Week 1	Etiology of Diseases (infectious pathogenic agents, Susceptibility of host)	- Dr. E. O. Irokanulo

Objective: *Learn and understand infectious agents of man and anima, their originl and what constitutes a susceptible host.*

Week 2	Principles of infectious diseases (Introduction to infectious diseases of humans and animals, Reservoirs of infectious agents)	- Dr. E. O. Irokanulo
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Objective: *Students are expected to understand the principles that drive acquisition of infection by microorganisms and their manifestations.*

Week 3	Principles of infectious diseases (Mode of Transmission, Portal of Entry)	- Dr. E. O. Irokanulo
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Objective: *Students are expected to understand and know the transmission mechanisms of etiologic agents, reservoir of etiologic agents, portals of exit, mode of disease transmission, portal of entry for etiologic agent and susceptible Host.*

Week 4 **Herd Immunity** (Importance of Herd Immunity, Herd immunity and vaccine preventable diseases) - Dr. E. O. Irokanulo

Objective: *To communicate to and make the students to appreciate what herd immunity is and its relationship with prevention of communicable diseases. The students are also expected to know the factors that engenders a break in herd immunity and the attendant consequences.*

Week 5 **Pathology and Pathogenesis** (Origin and development of disease, Types of diseases) - Dr. E. O. Irokanulo

Objective: *To teach the students what pathology and pathogenesis are. The students are also to learn of the Origin, Development and Types of pathology and how these come about.*

Week 6 **Pathology and Pathogenesis** (Mode of study – organs, tissues, bodily fluids) - Dr. E. O. Irokanulo

Objective: *The students should be able to learn the different organs, body fluids, tissues, whole bodies (autopsies) that are involved in pathology and pathogenesis.*

Week 7 **Normal Flora of Humans/Animals** (General terms and types of relationships) - Dr. E. O. Irokanulo

Objective: *The students are expected to know what the human normal flora is and the various types of associations that exist between a host and the microorganisms.*

Week 8 **Normal Flora of Humans/Animals** (Acquisition of Normal Flora and their habitats) - Dr. E. O. Irokanulo

Objective: *The student should know the modes of acquiring normal Flora, their locations and activities on the human and animal body.*

Week 9 **Laboratory diagnosis** and selected zoonotic diseases. - Dr. E. O. Irokanulo

Objective: *The students will learn to carry out different laboratory techniques for the diagnosis (isolation, identification and characterization) of microorganisms.*

Week 10 **Prophylactic/therapeutic** procedures - Dr. E. O. Irokanulo

Objective: *The students will learn and understand the various prophylactic and therapeutic procedures relevant in both the communicable and non communicable diseases.*

Week 11-12 Tutorials

- Dr. E. O. Irokanulo

Objective: *The students will engage in group discussions to review topics earlier studied for better understanding and application.*

Week 13-14 Revision/Exams

Method of Grading:

	Grading	Score (%)
1	Assignment	10
2	Test	20
3	Final Examination + Practical	70
4	Total	100

Ground Rules and Regulation:

1. Punctuality
2. Dedication and Diligence

Topic for Term Paper / Assignment:

1. Opportunistic microorganisms in relation to an immuno-compromised host..

Alignment with Goals and Vision of Landmark University:

To prepare the students and harness their potential for future challenges in applied research into drug and vaccine development against human and animal diseases

Contemporary Issues / Industry Relevance:

Understanding the origin, processes and mechanisms involved in microbial diseases of human and animal and for the application of the knowledge for future use in industry, research and development.

Recommended Reading:

Prescott's Microbiology, 8th ed. (International ed. 2011)
Todar's Textbook of Bacteriology (Kenneth Todar PhD)