

## Course Specification

### Microbiology

#### 1. General information

<b>Course Title</b>	<b>Microbiology</b>
<b>Code No.</b>	<b>MI733</b>
<b>Department</b>	<b>Microbiology</b>
<b>Teaching Hours</b>	<b>210hrs.</b>
<b>Language</b>	<b>English</b>
<b>Academic Year</b>	<b>Third Year</b>
<b>Course Coordinator</b>	<b>Dr. Abdallah Bensharada</b>
<b>Date and Signature</b>	<b>October 2020</b>

#### 1.1 . Number of hours per week.

Lectures: 5hrs.

Laboratory: 2hrs.

Tutorial: 1hr.

Total: 8hrs.

#### 2. Objectives of Course:

- Providing students with basic concepts of microbiology: bacterial, viral and fungal morphology, metabolism, physiology, genetics, and induced diseases, especially endemic in the locality: their transmission, laboratory diagnosis, treatment, prophylaxis and control in vivo and in vitro and molecular biology.
- Helping the students know and understand the effect of different antimicrobial agents on each organism as well.
- Providing students with the essential knowledge of the structure and function of the immune system, mechanism of immunity and immune mediated diseases as well as the different methods used to diagnose and control such diseases.
- To make students aware of the different nosocomial infections and their mode of transmission and to familiarize students with the different principles and measures of infection prevention and control.

### 3. Intending Learning Outcomes (ILOs):

#### a. Knowledge and Understanding:

On successful completion of the course, student will be able to:

a.1	Know the general (bacterial, viral, fungal) morphology, physiology and genetics.
a.2	State the principles of growing and cultivating microorganisms and the scientific basis of using antimicrobial agents, their mode of action, application and complications in vivo and in vitro.
a.3	Identify the host parasite relationship and microbial virulence and pathogenesis.
a.4	Understand the immune system, its structure, normal function, beneficial and harmful or deleterious behavior or reactions (Immunopathology)
a.5	Classify microorganisms of medical importance with emphasis on: morphology, culture, antigenic structure, virulence, pathogenesis, clinical diseases they caused, diagnosis, treatment, prevention and control.
a.6	Define nosocomial infections, principles and methods of decontamination and infection prevention and control.
a.7	State the clinical manifestations of systemic infections and different organisms causing them, and how to reach a diagnosis.
a.8	Identify the basis of molecular biology

#### b. Intellectual skills:

On successful completion of the course, student will be able to:

b.1	Set up a policy for using the different laboratory procedures necessary to approach diagnosis of the common infectious clinical conditions with prioritization of the most appropriate and most cost effective tests to be used.
b.2	Interpret results and reports of microbiological, serological, immunological and molecular tests.
b.3	Categorize a microorganism as a bacterium, virus or fungus according to standard taxonomy.
b.4	Determine the appropriate antibiotics used in treatment of each disease.

#### c. Practical and Professional Skills:

On successful completion of the course, student will be able to:

c.1	Perform microscopic stained preparations of the most medically important microorganisms
c.2	Perform biochemical and serological tests and antibiograms used to identify bacteria and diagnose the disease.
c.3	Perform: Simple stain, Gram stain and Zeihl- Neelsen stain of bacteria
c.4	Practice the basic infection control measures as hand wash, use of different methods of sterilization and disinfection.

#### d. General and Transferable skills:

On successful completion of the course, student will be able to:

d.1	Evaluate the risk of disseminating infections in the hospital and community through other cases, carriers or even healthcare workers during manipulating and handling infectious material.
d.2	Communicate orally and in writing.
d.3	Present scientific work utilizing IT methods.

#### 4. Course Contents:

Academic Subject	Total Hours (210)	Lectures	Laboratory	Tutorials
General Microbiology	36	20	10	6
Immunology	50	30	14	6
Systemic Bacteriology	26	10	10	6
Medical Mycology	35	30	4	1
Virology	50	20	20	10
Topic on Clinical Microbiology	13	10	2	1

#### 5. Teaching and Learning Methods :

- Formal Lectures
- Practical sessions
- Case studies, Group discussion & Assignments

#### 6. Evaluation Methods

Evaluation Method	Date	Marks 200	%	ILOs Assessed
1	<b>Annual Work</b>	<b>40</b>	<b>20%</b>	
	▪ Mid-year Exam	30		Knowledge, understanding and intellectual skills
	▪ Quizzes & Assignments	10		Knowledge, understanding and intellectual skills
2	<b>Final Exam</b>	<b>160</b>	<b>80%</b>	
	▪ Written	100		Knowledge, understanding and intellectual skills
	▪ Practical	40		knowledge, understanding and intellectual skills Practical and professional skills General and transferable skills
	▪ Oral	20		Knowledge, understanding and intellectual skills Professional, general and transferable skills

## 7. Evaluation Schedule:

Evaluation	Date
Mid-term written exam: It includes a varieties of questions; - True & False questions & Best answers choice Questions/ Multiple choice questions with case studies - Essay Questions - Matching and complete the blanks	January
Final written exam: It includes a variety of questions; - True & False questions & Best answers choice Questions/ Multiple choice questions with case studies - Essay Questions - Matching and complete the blanks	June
Practical exam.	June
Oral examination	June
Participation (discussions, assignments/ continuous assessment exam.....etc)	Daily-Monthly

## 8. References:

Reference Title	Publisher	Edition	Author	Place
Course Handout			Department Staff	Library
Jawetz Melnick & Adelbergs Medical Microbiology	McGraw-Hill Education / Medical	27 <sup>th</sup>	Karen C. Carroll Janet Butel Timothy Mietzner	

## 9. Required Facilities:

Required Facilities	Comments
Lecture hall	Data show, white board,
Equipped laboratory	Microscopes, slide projector, overhead projector,
Library	Textbooks, journals, internet, video conference

Course Coordinator: Dr. Abdallah Bensharada

Signature: .....

Programme Coordinator: Dr. Hussain Amaigil

Signature: .....

Head of Department: Dr. Abdallah Bensharada

Signature: .....

Date: October 2020

Course ILOs Mapping Matrix – Microbiology

Topic	Knowledge and Understanding a								Intellectual Skills b				Practical and Professional Skills c				General and Transferable Skills d		
	1	2	3	4	5	6	7	8	1	2	3	4	1	2	3	4	1	2	3
General Microbiology	x	x									x		x	x	x	x	x	x	x
Immunology	x			x			x		x	x			x				x	x	x
Systemic Bacteriology	x	x	x		x	x	x		x	x	x	x	x	x	x	x	x	x	x
Medical Mycology	x	x	x		x	x	x		x	x	x		x			x	x	x	x
Virology	x	x	x		x				x	x	x		x			x	x	x	x
Topic on Clinical Microbiology		x	x	x		x	x	x	x	x		x	x	x		x	x	x	x