



# Paramedical Program

<b>Specialization</b>	<b>Medical Laboratories</b>
<b>Course Number</b>	<b>020811111</b>
<b>Course Title</b>	<b>Microbiology (1)</b>
<b>Credit Hours</b>	<b>(3)</b>
<b>Theoretical Hours</b>	<b>(3)</b>
<b>Practical Hours</b>	<b>(0)</b>





### Brief Course Description:

The course introduces the students into the whatness of microbiology with an emphases put on the general classifications of microbiology, bacteriology and the control of microbial growth, Sterilization & disinfection It also deals with host parasite relationship, virology, mycology, immunology,

principles of disease and epidemiology. Moreover, it deals with the mechanism of pathogenicity (Pathogenic Bacteria & Antimicrobial drugs)

### Course Objectives:

Upon the completion of the course, the student will be able to:

1. Know principles of microbiology & its importance in our life.
2. Get general information about anatomy & physiology of bacterial cell.
3. Understand sterilization and disinfection types and action.
4. Know Antimicrobial drugs and how they act
5. Gain general information about viruses.
6. Know types of fungal infections.







## Detailed Course Description:

Time Needed	Unit Name	Unit Content	Unit Number
1.	introduction	<ul style="list-style-type: none"> <li>▪ Microbiology(MB)               <ul style="list-style-type: none"> <li>- Definition.</li> <li>-Development of M.B</li> <li>- Microorganisms and human welfare.</li> <li>-Classifications of microorganisims:                   <ul style="list-style-type: none"> <li>-Bacteria</li> <li>-Viruses</li> <li>Fungi / Parasites / Algae</li> </ul> </li> </ul> </li> </ul>	
2.	Bacteriology	<ul style="list-style-type: none"> <li>▪Defintion/-structure&amp;function of bacterial cell               <ul style="list-style-type: none"> <li>1-morphological characteritics of bactria.                   <ul style="list-style-type: none"> <li>a-size</li> <li>b-shape</li> <li>c-arrangement.</li> <li>d-motility.</li> <li>e-sporulation</li> <li>f- presence of capsule</li> <li>g- gram reaction</li> <li>h- aeration (oxygen requirement) .</li> </ul> </li> <li>2-cultural chac.</li> <li>3-biochemichal characteristics</li> <li>-Requirements for bacterial growth                   <ul style="list-style-type: none"> <li>a-Nutritional factors</li> <li>b-Environmental factors</li> </ul> </li> </ul> </li> </ul>	
3.	Sterilization & Disinfection	<ul style="list-style-type: none"> <li>-Defintions</li> <li>- Physical &amp; Chemical factors affecting bacteria growth.</li> <li>- Pasteurization.</li> <li>-Sterilization , sterilization device: thermal,</li> </ul>	



		radiation ,filtration	
4.	<b>Virology</b>	-Definition -General Properties of Viruses -Anatomy of viruses -Classification of virus	
5.	<b>Mycology</b>	-Definition -Classification of Fungi -Structure of Fungus. -Habitat. -Reproduction. -Fungal infections (mycoses). – Superficial. – Cutaneous – Deep	
6.	<b>Immunity</b>	<ul style="list-style-type: none"> <li>▪ Non specific defenses of the host(Innate Immunity). <ul style="list-style-type: none"> <li>– Skin and mucous membrane.</li> <li>– Phagocytosis.</li> <li>– Inflammation</li> <li>– Interferon,complement and properdine.</li> </ul> </li> <li>▪ Specific defenses of the host(Acquired Immunity). <ul style="list-style-type: none"> <li>– Kinds of immunity: <ul style="list-style-type: none"> <li>a- Cellular</li> <li>b- Humoral</li> </ul> </li> <li>– Antigens and antibodies.</li> </ul> </li> </ul>	

**Evaluation Strategies:**

Exams		Percentage	Date
Exams	First Exam	20%	--/--/----
	Second Exam	20%	--/--/----
	Final Exam	50%	--/--/----
Homework and Projects Discussions and lecture Presentations		10%	--/--/----

**Teaching Methodology:**

Lectures. Group discussion. Videos. Live patterns & samples. Practical applications. Field Visits (Industries).



❖ تطبق هذه الخطة الدراسية اعتباراً من بداية العام الجامعي 2009/2008



## Text Books & References:

### References:

1. Microbiology.2nd ed. ,2013.Dr. Tarek M. Al-Sanouri, Ms Amira Al-Shinawi& Mrs Nijmeh Rabba. Dar Tasneem ,Amman
2. Microbiology.2nd ed.2007.Mrs Sahar Al-Shinawi& Dr. Osama Abu Khalid. MujtamaArabiPuplication .Amman.
- 3.Microbiology ,An Introduction.12th ed. 2016.Gerard J. Tortora , Berdell R. Funke& Christine L. Case.Pearson.USA.
4. Prescott's Microbiology . 10th ed. 2016.Joanne Willey ,Linda Sherwood & Christopher J Woolverton .Willey Sherwood Woolverton,USA.
5. Medical Microbiology. A Guide to Microbial Infections.David Green wood,Richard slack. 17th ed.2017. Churchil Living Stone
6. Medical Microbiology. Jawetz,Mlnick & Adelbergs. 26th ed. 2013.Mc Graw Hill.

