Paramedical Program

Specialization	**Medical Laboratories**
Course Number	**020811112**
Course Title	**Microbiology (2)**
Credit Hours	**(3)**
Theoretical Hours	**(3**
Practical Hours	**(0)**

Brief Course Description:

The course deals with the Principles of disease and epidemiology and the Mechanism of Pathogenicity. It also introduces the students to Pathogenic Bacteria , Antimicrobial drugs , Nosocomial infections and Viral Infections.

Course Objectives:

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

1. Know principles of disease and epidemiology.
2. Learn about mechanism of Pathogenicity.
3. Know Antimicrobial drugs.
4. Differentiate Pathogenic Bacteria.
5. Know about nosocomial infections.
6. Differentiate types of Viral Infections.

Detailed Course Description:

Time Needed	Unit Content	Unit Name	Unit Number
1.	**Infections & Epidemiology**	Epidemiologicl definitions. *Pathogenicity *Pathogen *Virulence *Diseases: a-Endemic b-Ebidemic c-Pandemic ▪ Infection. ▪ Normal flora. *Mode of transmission ▪ Pathogenic properties of bacteria,Toxins, enzymes Capsule ,....	
2.	**Pathogenic Bacteria**	▪ Gram +ve bacteria & G -ve bact. a-Gram positive cocci:1-Staph,2-Strept b- Gram positive bacilli:1-Bacillus (Aerobic sporeforming bacilli) 2-clostridium (Anaerobic sporoforming bacilli) c-Gram positive Listeria, d-Corynebacterium diphtheria. ▪ Gram negative bacteria: a-Gram negative cocci – - Neisseria spp. b-Gram negative bacilli: 1-Eicoli, 2-Klebsiella,3-Citrobacter 4-Salmonella spp. 5-Shigella 6-Vibrio Cholera. 7-Pseudomonas aeruginosa 8-Proteus. 9-Enterobacter ▪ Gram negative coccobacilli: a- Haemophilus influenzae	

		b-Brucella.spp c-Bordetella pertussis ▪ Spiral bacteria:a- treponema allidum ▪ Mycobacteria: Mycobacterium tuberculosis. ▪ Mycoplasma Pneumonia ▪ Chlamydia trachomasis * Rickettsia	
3.	**Antimicrobial drugs**	a-Definitions b-Criteria of antimicrobial drugs. c-Mechanisims ofAction of antimicrobial drugs. d-Tests of microbial susceptibility to chemotherapeutic agents	
4.	**Nosocomial Infections**	▪ Definition. ▪ Most common micro-organisms. ▪ Predisposing factors.	
5.	**Viruses**	▪ Types Of Viral Infections: a-Latent viral infection. b-Acute viral infection. c-Chronic viral infection. ▪ Oncoviruses. ▪ Viral Disases: Classification of viruses *RNA Viruses 1-Measles virus 2-Rubella virus 3-Cytomegalo Virus. 4-Rabies Virus. 5-Influenza viruses. 6-HIV "AIDS". 7-Hepatitis A virus, Hepatitis C virus 8-Mumps virus *DNA viruses: a-Herpes Viruses.b-Hepatitis B virus	

Evaluation Strategies:

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

Teaching Methodology:

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

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. AGuide to Microbial Infections.David Green wood,Richard slack. 17th ed.2017. Churchil Living Stone

6. Medical Microniology. Jawetz,Mlnick & Adelbergs. 26th ed. 2013.Mc Graw Hill.