Paramedical Program

Specialization	**Medical Laboratories**
Course Number	**21107131**
Course Title	**Microbiology (1)**
Credit Hours	**(3)**
Theoretical Hours	**(3)**
Practical Hours	**(0)**

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. It also deals, with host parasite relationship, virology mycology principles of disease and epidemiology.Moreover,it deals with the mechanism of pathogenicity (Pathogenic Bacteria, Antimicrobial drugs, nosocomial infections),and the management of the collection, transportation, preservation and disposal of samples Finally, it shows how the results are reported and recorded

Course Objectives:

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

1. Principles of disease and epidemiology.
2. Mechanism of Pathogenicity
3. How to do the collection, Preservation and Transportation of Samples.
4. Know Antimicrobial drugs
5. To differentiate Pathogenic Bacteria
6. Preparation and Staining
7. The types of infections
8. Types of Viral Infections

Detailed Course Description:

Time Needed	Unit Name	Unit Content	Unit Number
1.	**introduction**	▪ Microbiology – Definition. – History. – Micro – organisms and human body. ▪ General Classifications of Microbiology. – Bacteriology. – Virology. – Mycology.	
2.	**Bacteriology**	▪ Bacteriology: – Size and Sharpe. – Structure/staining – Bacterial species – Bacterial toxins. – Reproduction / curve. – Bacterial growth – Bacterial culture media: – Definition – Type. ▪ Control of Bacterial growth – Temperature. – Kind of bacteria. – Environment – Physical state of bacteria. – Physical methods of bacterial control. – Chemical methods of bacterial control.	
3.	Sterilization & Disinfectant	- Physical & Chemical factors affecting bacteria growth. - Types of pasteurization. -Sterilization , sterilization device: thermal,	

		radiation ,filtration	
4.	Antibiotic	-Antibiotic mechanism in bacteria -Basic division of Antibiotic -Bacterial resistance to antibiotic -Antibiotic therapy in some diseases , Chemoprophylaxis	
5.	**Virology**	▪ Size and shapes. ▪ Structure. ▪ Multiplication and cultivation. ▪ Virus – host cell interaction. ▪ Interferon. ▪ Oncoviruses. ▪ Bacteriophages.	
6.	**Mycology**	▪ Structure of Fungus. ▪ Habitat. ▪ Reproduction. ▪ Fungal infections (mycosis). – Superficial. – Cutaneous – Deep	
7.	**Infection**	▪ Source of infection. ▪ Mode of transmission. ▪ Prevention and control.	
8.	**Immunity**	▪ Non specific defenses of the host. – Skin and mucous membrane. – Phagocytosis. – Inflammation – Interferon,complement and properdine. ▪ Specific defenses of the host. – kinds of immunity – Antigens and antibodies. – Mechanism of antibody formation. – Cellular immunity. ▪ hypersensitivity ▪ Vaccines – Definition – Types	

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 Richard Harvey, Pamela, Champe Bruce D. Fisher 2007 PP438
2. Burton's Microbiology Paul Engel Kirk, Gwendolyn Buroon 2007 390PP.
3. Microbiology, Geraral Tortora, Berdell Funke Christin Case 1000PP. 18JD 2007.
4. Medical Microbiology and Immunology Warren Levinson. 660PP. 2006
5. Microbiology Prescott Harley Kline Sixth edition 2005 Published by MC Graw. Hill Martin J. Lang.
6. Microbiology PRESCOTT HARLEY KLINE Sixth edition 2005
7. Published by MC Graw. Hill Martin J. Lang.
8. Medical Microbiology .Geo. F Brooks Janet s. Butel Stephen A. Morse, 20th edition 2004
9. Microbiology for the Health Sciences Gwendolyn R.W Burton Paul G.Englkirk. .2004 Lippincott Williams & Wilkins.
10. Medical Microbiology Cedric Mims, Hazel M Dockrem Richard V Goering. Ivan Ritt, Derek. Wakein, Mark Zuckerman 660PP 15JD.
11. Medical Microbiology. David Greenwood Richard. Slack, John Peutherer – 2002 708 PP.
12. MEDICAL. MICROBIOLOGY ODY. 16f, Churchill Living, Greenwood, 2002 Microbiology and Infection Ingles 1998 PP 256.
13. Medical Microbiology, Tom Elliott Mark Hastings, Ulrich esselberger, 350 P.P 1997.
14. Microbiology for the health sciences, by Burton & Engel Kirk, 6th edd. Lippincott Williams & Wilkins.
15. Microbiology – An Introduction: Torkora, hunke, case, Benjamin cummings 8th. edd (ISBN/0 – 8053-7613-5).
16. Jawetz, Melnick, and Adelbergis, Medical Microbiology. Geo. F. Brooks, Janet. Butel. Stephen 21st edd, lang medical books.
17. Internet microbiology teaching resources