Module (Course Syllabus) Catalogue

2023-2024

College/ Institute	**Erbil medical Technical Institute**	
Department	**nursing dept**	
Module Name	**Medical Microbiology**	
Module Code		
Semester	**2**	
Credits		
Module type	**Prerequisite** ☐ **Core** ☐ **Assist.** ☐	
Weekly hours		
Weekly hours (Theory)	**(2)hr Class**	
Weekly hours (Practical)	**(2)hr Lab**	
Lecturer (Theory)	**Pshtewan Dhahir majeed**	
E-Mail & Mobile NO.	**peshtewan.majeed@epu.edu.iq07504728141**	
Lecturer (Practical)	**Pshtewan Dhahir majeed**	
E-Mail & Mobile NO.	**peshtewan.majeed@epu.edu.iq07504728141**	

Course Book

Course Description	This course is designed to meet the requirements of students interested in careers in nursing. Clinical Microbiology for pharmacy is a one-semester course that emphasizes the interaction of microorganisms with humans and the diseases they cause. Topics include microscopy, survey of various microbes, the immune system, food microbiology, microbial pathogens and mechanisms of disease transmission. The course is complimented by laboratory exercises in which students acquire hands-on experience in studying various aspects of microbiological applications.
Course objectives	The main objectives of the course include: 1- Enabling nursing students to understand disease-causing representatives of different groups of microorganisms. 2- Learning how disease causing microbes are transmitted and controlled. 3- Learning how to avoid the spread of infectious microorganisms in the hospital environment. 4- Students will learn how to use technology to access information necessary for identifying trends used in decision making, promoting quality improvement, and preserving safety, to provide patient care, collaborate with inter-professional teams, and to continuously advance the nursing profession.
Student's obligation	1- Attendance: This is mandatory and a daily official class attendance record will be maintained. 2- Tests: There will be tests and quizzes covering lectures as well as textbook reading assignments, plus a mid-term and final examination. There will be four announced tests and four unannounced quizzes per semester. 3- Laboratory exercises: Students taking this course are also to take the laboratory class. Students will be required to wear protective clothing during laboratory exercises. Laboratory reports must be typed and submitted no later than seven (7) days after completion of the exercise. 4- Assignments: There will be one assignment each before and after mid-term. No late submissions will be accepted without prior consultation and approval of the instructor. 5- Oral and poster presentations may be necessary.

Required Learning Materials	1- Materials for the laboratory will be provided by the university 2- Note books for lectures and laboratory reports. 3- Laboratory coats must be worn during laboratory exercises. 4- A hall with data-show device 5- Handouts
Assessment scheme	40% Mid Term (Theory and practical) 10% Assignment (report, paper, homework, seminar..) 30% final practical 20% final theory
Specific learning outcome:	Upon completion of the course, students should be able to: 1- To demonstrate the ubiquity and diversity of microorganisms in the human body and the environment. 2- To illustrate the characteristics features of microorganisms and the diseases they cause. 3- To explore mechanisms by which microorganisms cause disease. 4- To show how the human immune system counteracts infection by specific and non- specific mechanisms. 5- To explore the routes of transmission of infection in hospitals, communities and populations and the methods used to control the spread of infection. 6- To demonstrate the principles of vaccine preparation and the use of vaccines in immunization. 7- To show the reasons for, and the methods for sterilization of equipment and medical preparations from the microbiological point of view. 8- To show the antimicrobial activity of disinfectants in the context of the patient and the environment. 9- To illustrate the microbiological reasons for, and the importance of aseptic techniques in patient management. 10- To demonstrate the contribution of the microbiologist and the microbiology laboratory to the diagnosis of infection including specimen collection and the role of the nurse in carrying this out.
Course References:	**Text book for theory sessions:** Cowan, M. Kelly. Herzog, Jennifer, Microbiology fundamentals: a clinical approach New York, NY: McGraw-Hill (2015). **Text book for Practical sessions:** -Josephine A Morello_ Helen Eckel Mizer_ Marion E Wilson - Laboratory manual and workbook in microbiology _ applications to patient care-McGraw-Hill (2003) -Cappuccino James, Sherman Natalie - Microbiology. A Laboratory Manual-Pearson Education (2014)

Questions Example Design

Theoretical Part:

tch Column A with Column B: (20Marks)

Column A		Column B	
1.	Urethritis	A	Fever, headache, stiff neck
2.	*S. typhi*	B	Scarlet fever
3.	Impetigo	C	bubble-like swellings that can break and peel away
4.	*Neiseria gonorrhoeae*	D	Are the smallest and simplest of the bacteria
5.	Helicobacter pylori	E	Effective against gram-positive or gram-negative bacteria
6.	Mycoplasma	F	cervicitis
7.	Folliculitis	G	superficial inflammation of hair follicle. -
8.	Streptococcus pyogenes	H	Enteric fever
9	Meningitis	I	yellowish discharge, scarring and infertility
10	Narrow spectrum antibiotics:	**J**	is adapted to survive in stomach acid

Column A	**1.**	**2.**	**3.**	**4.**	**5.**	**6.**	**7.**	**8.**	**9.**	**10.**
Column B										

Q2/ Choose the correct answer :- (20Marks)

1-…… Is the study of organisms too small to be clearly seen by the unaided eye.

(a- Microbiology, b- Microorganism , c- cell, d- algae)

2-……Are eukaryotic cells with a complex carbohydrate cell wall

(a-Prokaryotic, b- fungi , c- Viruses, d-bacteria)

3- Entero-Toxigenic Escherichia coli cause:-

(a-Traveler's diarrhea, b- hemolysins, c- bacteriophages , d- Rheumatic fever)

4- Gastric peptic ulcer caused by:

(a-Altered permeability b- Entero-Hemorrhagic Escherichia coli

c-Streptococcus pneumonia, d- Non)

5- General mechanisms of antibacterial resistance is:-

(a-Bactericidal antibiotics, b- Novel (new) binding sites, c- Enterococci d- (a &b)

Q3/ Answer by True or False in front of the following sentences :(10 Marks)

Antibacterial is a substance or compound that kills fungi or inhibits their growth.( ) -1

Uro-Pathogenic Escherichia coli is cause Chronic gastritis.( ) -2

The symptom of sepsis are skin and conjunctival rashes,weakness, hypotension, shock( ) -3

Neisseria meningitidis is transmit via sexual contact and mother to neonate during birth ( ) -4

The Beta-lactamase is one of the Virulence factors of Streptococcus pneumonia(

Q4/ Enumerate the Virulence Factors of *Escherichia coli* : (20 Marks)

1-

2-

3-

4-

Q5/ Enumerate the following: (20 Marks)

1. **Diseases that caused by *Helicobacter pylori* are:**

1- **2-**

3- **4-**

2. **Sign and symptoms of enterocolitis that caused by *Campylobacter jejuni* are:**

1- **2-**

3- **4-**

Practical Part:

Q1/ Write the differences between the following: **(20 marks)**

1-	Blood agar	**X**	Chocolate agar
2-	Simple staining	**X**	Differential staining

Q2/ Enumerate the following: **(20 marks)**

1- Expected pathogens that may be present in urine are:-

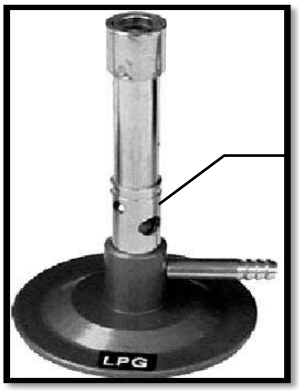
1-

2-

3-

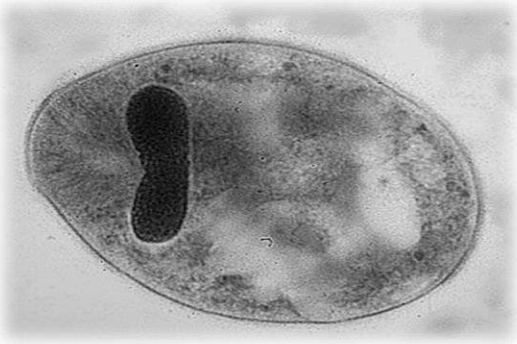
4-

Q3/ Label the following:- **(20 marks)**



Name:

Used for:



Stage name:
Related to the organism:
Causative agent of:
Diagnosis:
Commonly found in:

Q5/ write the procedure of the following: **(20 marks)**

1. Gram stain
2. Media preparation

Extra notes:

https://textbooks.opensuny.org/browse-oer/

External Evaluator

I confirmed that the contents of this syllabus are commonly more explicit and follows the principles and rules in medical microbiology subjects.

Lecturer: