

TISHK INTERNATIONAL UNIVERSITY
FACULTY OF APPLIED SCIENCE
Department of MEDICAL ANALYSIS,
-2022 Fall
Course Information for MA 405 MEDICAL BACTERIOLOGY

Course Name: MEDICAL BACTERIOLOGY

Code	Regular Semester	Theoretical	Practical	Credits	ECTS
MA 405	7	2	2	3	4

**Name of Lecturer(s)-
Academic Title:** Salah Balaky - Ass.Proff.
 Salah Balaky - Ass.Proff.

Teaching Assistant: Sanaa Yaseen Isa

Course Language: English

Course Type: Main

Office Hours Thursday 12:00-14:00

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Teacher's academic profile: BSc (Biology) at Salahaddin University M.Sc. in Microbiology at Salahaddin University PhD in Medical Microbiology at Durham University, UK
 BSc (Biology) at Salahaddin University M.Sc. in Microbiology at Salahaddin University PhD in Medical Microbiology at Durham University, UK

Course Objectives: Upon successful completion of this course students will be able to understand: - The pathogenic bacteria and infections caused by them - Bacterial infection: Source of infection , methods of transmission of infection and factors predisposing to microbial pathogenicity, types of infectious diseases. - Pathogenesis and clinical finding for the disease induced by different types of pathogenic bacteria which are: A/ Gram Positive pathogens B/ Gram Negative pathogens C/ Other important pathogens

Course Description (Course overview): The course implies theoretical and practical Medical Bacteriology 1. Overview of Pathogenic Microorganisms – List of common pathogenic bacteria. 2. Virulence of bacteria, bacterial virulence factors and their regulation (exotoxin, endotoxin, and their contribution to pathogenesis). 3. Infection process (development, and outcomes) 4. Nosocomial infections and their prevention 5. Infection-Sources of infection, method of infection transmission of, factors predisposing to microbial pathogenicity, types of infectious diseases. 6. Gram-positive pathogens Staphylococcus, Streptococcus, Corynebacterium, Clostridium..... Gram negative pathogens Neisseria, E.coli, Klebsiella, Proteus, Salmonella, Shigella, Vibrio, Yersinia, Acid fast bacteria-Mycobacterium tuberculosis and M. lepreae, Leptospira, Treponema. Mycoplasma. Chlamydia. Helicobacter and Campylobacter. Other important anaerobic pathogens.

COURSE CONTENT

Week	Hour	Date	Topic
1	2	4-7/10/2021	Coursebook, Introduction to Medical Bacteriology and classification of important human pathogens
2	2	10-14/10/2021	Normal Microbial Flora of The Human Body
3	2	17-21/10/2021	Gram-Positive "Staphylococci and Streptococci
4	2	24-28/10/2021	Spore-Forming Gram-Positive Bacilli: Bacillus & Clostridium Species
5	2	31/10-4/11/2021	Non-Spore Forming Gram-Positive Bacilli:
6	2	7-11/11/2021	Enteric Gram -Negative Rods (Enterobacteriaceae):
7	2	14-18/11/2021	Midterm Exam
8	2	21-25/11/2021	Salmonellae, Vibrios, Campylobacters, Helicobacter & Associated Bacteria
9	2	28/11-2/12/2021	Pseudomonads & Anaerobic Bacteria
10	2	5-9/12/2021	Haemophilus, Bordetelia & Legionellae

11	2	12-16/12/2021	Brucella, Yersinia, Francisella & Pasteurelia
12	2	19-23/12/2021	The Neisseriae & Unusual Bacterial
13	2	26-30/12/2021	Mycobacteria
14	2	2-5/1/2022	Final Exam
15	2	9-13/1/2022	Final Exam
16	2	16-20/1/2022	Final Exam

COURSE/STUDENT LEARNING OUTCOMES

- 1 Describe the clinical signs and symptoms that define each of the bacterial infections.
- 2 Identify the organisms associated with systemic infections.
- 3 Identify the epidemiology and risk factors associated with the development of the discussed infection of a particular organ system.
- 4 Describe which anatomic locations in the human body contain normal flora versus those locations which are normally sterile.
- 5 Major types of bacteria that comprise the normal flora in each of these sites.

COURSE'S CONTRIBUTION TO PROGRAM OUTCOMES

(Blank : no contribution, I: Introduction, P: Profecient, A: Advanced)

Program Learning Outcomes

Cont.

1	Evaluate clinical laboratory data by interpreting laboratory results and relating the data to various disease states.	I
2	apply principles of evidence-based medicine to determine clinical diagnoses.	I
3	apply the basic principles of gross and microscopic anatomy, physiology, biochemistry, immunology, microbiology/virology.	I
4	formulate and implement acceptable treatment modalities to various disease states.	I
5	use technology effectively in the delivery of instruction, assessment, and professional development.	P
6	exhibit essential employability qualities by demonstrating laboratory safety, analyzing laboratory results, and displaying professional conduct.	I
7	exhibit organizational skills, accountability, and ethical behavior.	I
8	apply skills needed in operating laboratory equipment for testing, assessing quality assurance for lab equipment, and adhering to standard safety practices in the laboratory environment.	I
9	apply problem-solving and decision-making skills.	P
10	apply and promote health policies and regulatory standards in the field career.	
11	develop research in the field of medical analysis using qualitative and quantitative methods.	I

Prerequisites (Course Reading List and References):

General and Medical Microbiology

Student's obligation (Special Requirements):

Students must attend to lectures and follow all laboratory safety instructions . Participate in class activities.

Course Book/Textbook:

- Microbiology Text book by Prescott, Harley and Klein - Textbooks:- Jawetz, Melnick, and Adelberg's. Medical Microbiology. Twnty-Six Edition. McGraw-Hill Companies Inc. 2013. - Stephen H. Gillespie and Peter M. Hawkey. Principles and Practice of Clinical Bacteriology. Second Edition. Wiley. 2006 - Online resources: Articles from medical website.

Other Course Materials/References:

Teaching Methods (Forms of Teaching):

Lectures, Practical sessions, Exercises, Self evaluation, Assignments, Case studies, , ,

COURSE EVALUATION CRITERIA

Method	Quantity	Percentage (%)
Attendance	1	5
Quiz	2	5
Homework	1	5
Midterm Exam	1	20

Laboratory	1	10
Practical Exam	1	10
Final Exam	1	40
Total		100

Examinations: Essay Questions, True-False, Multiple Choices, Short Answers, Matching, , ,

Extra Notes:

ECTS (ALLOCATED BASED ON STUDENT) WORKLOAD

Activities	Quantity	Workload Hours for 1 quantity*	Total Workload
Theoretical Hours	16	2	32
Practical Hours	16	2	16
Final Exam	1	6	6
Attendance	1	4	4
Quiz	2	4	8
Homework	1	4	4
Midterm Exam	1		0
Laboratory	1		0
Practical Exam	1		0
Total Workload			70
ECTS Credit (Total workload/25)			2.8

Peer review

Signature:
Name:
Lecturer

Signature:
Name:
Head of Department

Signature:
Name:
Dean