International School of Medicine / Medicine (English)

2023 - 2024 Academic Year

MEDICAL MICROBIOLOGY

Syllabus

Course Description					
Name	**Code**	**Semester**	**T+A Hour**	**Credit**	**ECTS**
MEDICAL MICROBIOLOGY	ISM2014678	Yearly	41+18	0	4

Prerequisites Courses	
Recommended Elective Courses	
Language of Instruction	English
Course Level	First Cycle (Bachelor's Degree)
Course Type	Committee Course
Course Coordinator	Prof.Dr. Süleyman YILDIRIM
Name of Lecturer(s)	Prof.Dr. Süleyman YILDIRIM, Assist.Prof. Özlem GÜVEN, Assist.Prof. Hatice Kübra AKAY
Assistant(s)	
Aim	The aim of the course is to explain the bacteria that can be the causative agents of infection and the diseases they cause with their microbiological properties; to have basic knowledge about the functioning of the microbiology laboratory; to learn the organs, cells and molecules of the immune system, the method of working with cells and molecules, pathological pictures that may arise from the immune system.
Course Content	This course contains; Gram-Positive Cocci,Gram-Negative Cocci,Gram-Positive Bacilli,Gram-Negative Bacilli (Enterobacteriacea),LAB: Identification of Bacteria, Diagnostic Tests and Observation of Slides (Gram Positive-Negative, Coccus-Bacillus),Gram-Negative Aerobic Bacilli ,Anaerobes, Actinomyces, Mycobacteria and Mycoplasma,Spirochete, Rickettsial and Chlamydial Pathogens,LAB: Identification of Bacteria, Diagnostic Tests and Observation of Slides (Anaerobes, Actinomyces, Mycobacteria, Mycoplasma and Treponema),Host Microbe Cross Talk: Immunity and Infection, Host Defense Mechanisms,Defense Mechanisms of the Host,Host Defense Mechanisms, Immunodeficiency and Autoimmunity,Immune Hyperimmunity, Cancer and Transplantation Immunity.

Course Learning Outcomes	**Teaching Methods**	**Assessment Methods**
1.Differentiate between gram-positive and gram-negative cocci and bacilli and articulate the morphological features and pathogenesis of these bacterial groups	16, 37, 9	A, D
2. Describes how certain pathogenic bacteria are transmitted and outlines their mechanisms of causing disease.		
3. Analyzes clinical case questions and identifies the pathogenic bacteria responsible for the infectious disease.		
4. Showcase laboratory mastery through hands-on experience in culture and identification techniques, along with the accurate interpretation of antimicrobial susceptibility testing results specific to the targeted bacterial groups		
5. Describes the mechanisms of innate immunity and the structure of the adaptive immune system, antigens and antibodies		
6. Explains B and T cells and humoral immune mechanisms		
7. Defines vaccines and discusses their acceptable risks		
8. Explains the mechanisms of autoimmune diseases and allergy and hypersensitivity diseases		
9. Explains the mechanisms of tumor and transplantation immunology		

Teaching Methods	16: Question - Answer Technique, 37: Computer-Internet Supported Instruction, 9: Lecture Method
Assessment Methods	A: Traditional Written Exam, D: Oral Exam

Lecture Schedule

Sequence	**Topics**	**Preliminary Preparation**
1	Gram-Positive Cocci	
2	Gram-Negative Cocci	
3	Gram-Positive Bacilli	
4	Gram-Negative Bacilli (Enterobacteriacea)	
5	LAB: Identification of Bacteria, Diagnostic Tests and Observation of Slides (Gram Positive-Negative, Coccus-Bacillus)	
6	Gram-Negative Aerobic Bacilli	
7	Anaerobes, Actinomyces, Mycobacteria and Mycoplasma	
8	Spirochete, Rickettsial and Chlamydial Pathogens	
9	LAB: Identification of Bacteria, Diagnostic Tests and Observation of Slides (Anaerobes, Actinomyces, Mycobacteria, Mycoplasma and Treponema)	
10	Host Microbe Cross Talk: Immunity and Infection, Host Defense Mechanisms	
11	Defense Mechanisms of the Host	
12	Host Defense Mechanisms, Immunodeficiency and Autoimmunity	
13	Immune Hyperimmunity, Cancer and Transplantation Immunity	

Evaluation Methods	**Weight(%)**
Midterm Exam	40
General Exam	60

Resources

1. Jawetz, Melnick, & Adelberg's Medical Microbiology 28th edt. McGraw-Hill Education; 2019.
2. Murray PR, Rosenthal KS, Pfaller MA. Medical microbiology. 8th ed. Philadelphia: Mosby/Elsevier; 2016.