

Course Plan: Medical Bacteriology

General Information

Course Title	Medical Bacteriology
Level	Undergraduate Medical Students (MD Program)
Credit Hours	3 hours lecture per week
Course Description	This course provides students with fundamental knowledge of pathogenic bacteria relevant to human health and disease. Emphasis is on bacterial physiology, virulence, clinical significance, diagnosis, antimicrobial susceptibility, and infection control.
Overall Goal	To equip medical students with the knowledge and practical skills necessary to understand, diagnose, and manage bacterial infections, while fostering rational antimicrobial use and infection prevention strategies.

Specific Learning Objectives

Knowledge-Based Objectives

1. Describe bacterial structure, physiology, and classification.
2. Explain bacterial pathogenicity and host-pathogen interactions.
3. Identify clinical significance of major bacterial groups.
4. Discuss diagnostic methods (microscopy, culture, biochemical, molecular).
5. Outline principles of antimicrobial therapy and resistance.
6. Describe infection prevention and control strategies.

Skill-Based Objectives

1. Demonstrate correct specimen collection and handling.
2. Differentiate bacterial pathogens based on phenotypic/biochemical features.

Attitude/Professionalism Objectives

1. Apply biosafety and aseptic techniques.
2. Recognize the physician's role in rational antibiotic use and resistance control.
3. Develop teamwork and communication in lab/clinical problem-solving.

Teaching & Learning Methods

- Lectures with multimedia presentations
- Case-based discussions
- Small-group tutorials
- Problem-based learning (PBL) exercises

Assessment Methods

- Written examinations (MCQs)
- Continuous assessment (quizzes, participation)

Instructor Information

Course Instructor	Dr. Vajihe Karbasizade
Academic Rank	Associate Professor
Department	Department of Microbiology
Faculty	Faculty of Medicine
Educational Background	PhD in Medical Microbiology
Teaching Experience	20 Years of teaching in Medical Bacteriology / Microbiology
Research Interests	Antimicrobial resistance, Bacterial pathogenesis, Clinical diagnostics
Contact Information	Email: v.karbasi@med.mui.ac.ir Phone: +9831137929069
Office Address	Department of Microbiology, Faculty of Medicine
Office Hours	Days and times for student consultation
Responsibilities in Course	Course design, Lecturing Assessment, Student mentoring

NO Of Session	Main Topic	Teacher's Name	Time	Date
1	Science of microbiology	Dr A. Mirzaei	8-9 AM	۱۴۰۴/۷/۱
2	Bacterial Structure 1 (Prokaryotic cell structure including nucleoid and cytoplasmic structure)	Dr A. Mirzaei	9-10 AM	۱۴۰۴/۷/۱
3	Bacterial Structure 2 (Cell wall and cell membrane)	Dr A. Mirzaei	8-9 AM	۱۴۰۴/۷/۲
4	Classification of bacteria	Dr V. Karbasizadeh	8-9 AM	۱۴۰۴/۷/۸
5	Physiology and Metabolis m of bacteria	Dr B. Nasr Esfahani	9-10 AM	۱۴۰۴/۷/۸

6	Physiology and Metabolism of bacteria	Dr B. Nasr Esfahani	8-9 AM	۱۴۰۴/۷/۹
7	Bacterial growth	Dr J.Faghri	8-9 AM	۱۴۰۴/۷/۱۵
8	Pathogenesis	Dr A. Mirzaei	9-10 AM	۱۴۰۴/۷/۱۵
9	Disinfection and Sterilization	Dr H. Fazeli	8-9 AM	۱۴۰۴/۷/۱۶
10	Disinfection and Sterilization	Dr H. Fazeli	8-9 AM	۱۴۰۴/۷/۲۲
11	Bacterial Genetics	Dr A. Mirzaei	9-10 AM	۱۴۰۴/۷/۲۲
12	Bacterial Genetics	Dr A. Mirzaei	8-9 AM	۱۴۰۴/۷/۲۳
13	Antibiotics; Mechanisms of Action and resistance	Dr H. Fazeli	8-9 AM	۱۴۰۴/۷/۲۹
14	Normal flora	Dr V. Karbasizadeh	9-10 AM	۱۴۰۴/۷/۲۹
15	Gram positive cocci, Staphylococci	Dr. N. Hosseini	8-10 AM	۱۴۰۴/۷/۳۰
16	Gram positive cocci, Staphylococci	Dr. N. Hosseini	8-9 AM	۱۴۰۴/۸/۶
17	Streptococci; Enterococcus	Dr B. Nasr Esfahani	9-10 AM	۱۴۰۴/۸/۶

18	Streptococci; Enterococcus	Dr B. Nasr Esfahani	8-9 AM	۱۴۰۴/۸/۷
19	Neisseria and Branhamella	Dr. N. Hosseini	8-9 AM	۱۴۰۴/۸/۱۳
20	Gram- positive Bacilli; Listeria, Corynebacterium	Dr. N. Hosseini	9-10 AM	۱۴۰۴/۸/۱۳
21	Gram-positive Bacilli, Bacillus anthracis	Dr B. Nasr Esfahani	8-9 AM	۱۴۰۴/۸/۱۴
22	Gram-positive Bacilli, Clostridia	Dr V. Karbasizadeh	8-9 AM	۱۴۰۴/۸/۲۰
23	Enterobacteriaceae and E. coli	Dr H. Fazeli	9-10 AM	۱۴۰۴/۸/۲۰
24	Shigella and Salmonella	Dr H. Fazeli	8-9 AM	۱۴۰۴/۸/۲۱
25	Pseudomonas and non-fermentive bacteria	Dr H. Fazeli	8-9 AM	۱۴۰۴/۸/۲۷
26	Hemophilus and other fastidious Gram-negatives	Dr J. Faghri	9-10 AM	۱۴۰۴/۸/۲۷
27	Vibrio	Dr. N. Hosseini	8-9 AM	۱۴۰۴/۹/۴

28	Mycobacterium tuberculosis	Dr B. Nasr Esfahani	9-10 AM	۱۴۰۴/۹/۴
29	Atypical Mycobacteria and leprosy	Dr B. Nasr Esfahani	8-9 AM	۱۴۰۴/۹/۵
30	Legionella, Yersinia and Miscellaneous organisms	Dr J. Faghri	8-9 AM	۱۴۰۴/۹/۱۱
31	Brucella	Dr. N. Hosseini	9-10 AM	۱۴۰۴/۹/۱۱
32	Campylobacter	Dr A. Mirzaei	8-9 AM	۱۴۰۴/۹/۱۲
33	Helicobacter	Dr A. Mirzaei	8-9 AM	۱۴۰۴/۹/۱۸
34	Spirochetes: Treponema,	Dr V. Karbasizadeh	9-10 AM	۱۴۰۴/۹/۱۸
35	Spirochetes: Borellia	Dr V. Karbasizadeh	8-9 AM	۱۴۰۴/۹/۱۹
36	Chlamydia	Dr H. Fazeli	8-9 AM	۱۴۰۴/۹/۲۵
37	Bordetella, and Francisella	Dr J. Faghri	9-10 AM	۱۴۰۴/۹/۲۵
38	Actinomyces	Dr J. Faghri	8-9 AM	۱۴۰۴/۹/۲۶
39	Nocardia	Dr J. Faghri	8-9 AM	۱۴۰۴/۱۰/۲

40	Bacteroides and Gram-negative Anaerobes	Dr V. Karbasizadeh	9-10 AM	۱۴۰۴/۱۰/۲
41	Rickettsia's	Dr A. Mirzaei	8-9 AM	۱۴۰۴/۱۰/۳
42	Mycoplasma	Dr. N. Hosseini	8-9 AM	۱۴۰۴/۱۰/۹