

Course Plan: Medical Bacteriology dentistry

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. H. Fazeli
Academic Rank	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: h_fazeli@med.mui.ac.ir Phone: +983137929039
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	۱۰-۱۱	۰۵/۶/۳۱
2	Bacterial Structure 1 (Prokaryotic cell structure including nucleoid and cytoplasmic structure)	Dr A. Mirzaei	۱۱-۱۲	۰۵/۶/۳۱
3	Bacterial Structure 2 (Cell wall and cell membrane)	Dr A. Mirzaei	۹-۱۰	۰۵/۷/۱
4	Bacterial Structure 3 (Bacterial appendix: capsule, flagella, pilli, sporulation)	Dr A. Mirzaei	۱۰-۱۱	۰۵/۷/۷
5	Classification of bacteria	Dr V. Karbasizadeh	۱۱-۱۲	۰۵/۷/۷
6	Physiology and Metabolism of bacteria	Dr B. Nasr Esfahani	۹-۱۰	۰۵/۷/۸
7	Physiology and Metabolism of bacteria	Dr B. Nasr Esfahani	۱۰-۱۱	۰۵/۷/۱۴
8	Bacterial growth	Dr J.Faghri	۱۱-۱۲	۰۵/۷/۱۴
9	Pathogenesis	Dr A. Mirzaei	۹-۱۰	۰۵/۷/۱۵

10	Disinfection and Sterilization	Dr H. Fazeli	۱۱-۱۰	۰۵/۷/۲۱
11	Disinfection and Sterilization	Dr H. Fazeli	۱۱-۱۲	۰۵/۷/۲۱
12	Bacterial Genetics	Dr A. Mirzaei	۹-۱۰	۰۵/۷/۲۲
13	Bacterial Genetics	Dr A. Mirzaei	۱۰-۱۱	۰۵/۷/۲۸
14	Antibiotics; Mechanisms of Action and resistance	Dr H. Fazeli	۱۱-۱۲	۰۵/۷/۲۸
15	Antibiotics; Mechanisms of Action and resistance	Dr H. Fazeli	۹-۱۰	۰۵/۷/۲۹
16	Normal flora	Dr V. Karbasizadeh	۱۰-۱۱	۰۵/۸/۵
17	Gram positive cocci, Staphylococci	Dr V. Karbasizadeh	۱۱-۱۲	۰۵/۸/۵
18	Gram positive cocci, Staphylococci	Dr V. Karbasizadeh	۹-۱۰	۰۵/۸/۶
19	Streptococci; Enterococcus	Dr B. Nasr Esfahani	۱۰-۱۱	۰۵/۸/۱۲
20	Streptococci; Enterococcus	Dr B. Nasr Esfahani	۱۱-۱۲	۰۵/۸/۱۲
21	Neisseria and Branhamella	Dr J.Faghri	۹-۱۰	۰۵/۸/۱۳
22	positive Gram-Bacilli; Listeria	Dr J.Faghri	۱۰-۱۱	۰۵/۸/۱۹
23	Gram-positive Bacilli, Bacillus anthracis	Dr B. Nasr Esfahani	۱۱-۱۲	۰۵/۸/۱۹
24	Gram-positive Bacilli, Clostridia	Dr V. Karbasizadeh	۹-۱۰	۰۵/۸/۲۰

25	Gram-positive Bacilli, Clostridia	Dr V. Karbasizadeh	۱۰-۱۱	۰۵/۸/۲۶
26	Enterobacteriaceae and E. coli	Dr H. Fazeli	۱۱-۱۲	۰۵/۸/۲۶
27	Enterobacteriaceae and E. coli	Dr H. Fazeli	۹-۱۰	۰۵/۸/۲۷
28	Shigella and Salmonella	Dr H.Shojaei	۱۰-۱۱	۰۵/۹/۳
29	Pseudomonas and non- fermentive bacteria	Dr H. Fazeli	۱۱-۱۲	۰۵/۹/۳
30	Hemophilus and other fastidious Gram- negatives	Dr J. Faghri	۹-۱۰	۰۵/۹/۴
31	Vibrio	Dr H.Shojaei	۱۰-۱۱	۰۵/۹/۱۰
32	Mycobacterium tuberculosis	Dr B. Nasr Esfahani	۱۱-۱۲	۰۵/۹/۱۰
33	Mycobacterium tuberculosis	Dr B. Nasr Esfahani	۹-۱۰	۰۵/۹/۱۱
34	Atypical Mycobacteria and leprosy	Dr B. Nasr Esfahani	۱۰-۱۱	۰۵/۹/۱۷
35	Legionella, and Miscellaneous organisms	Dr J .Faghri	۱۱-۱۲	۰۵/۹/۱۷
36	Brucella	Dr H.Shojaei	۹-۱۰	۰۵/۹/۱۸
37	Bacteroides and Gram- negative Anaerobes	Dr H.Shojaei	۱۰-۱۱	۰۵/۹/۲۴
38	Campylobacter	Dr A. Mirzaei	۱۱-۱۲	۰۵/۹/۲۴
39		Dr A. Mirzaei	۹-۱۰	۰۵/۹/۲۵

	Helicobacter			
40	Spirochetes: Treponema,	Dr V. Karbasizadeh	۱۰-۱۱	۰۵/۱۰/۱
41	Spirochetes: Borellia	Dr V. Karbasizadeh	۱۱-۱۲	۰۵/۱۰/۱
42	Chlamydia	Dr H. Fazeli	۱۰-۱۱	۰۵/۱۰/۸
43	Bordetella, and Francisella	Dr J. Faghri	۱۱-۱۲	۰۵/۱۰/۸
44	Actinomyces	Dr J. Faghri	۹-۱۰	۰۵/۱۰/۹
45	Actinomyces	Dr J. Faghri	۱۰-۱۱	۰۵/۱۰/۱۵
46	Nocardia	Dr H. Shojaei	۱۱-۱۲	۰۵/۱۰/۱۵
47	Bacteroides and Gram- negative Anaerobes	Dr H. Shojaei	۱۰-۱۱	۰۵/۱۰/۲۲
48	Rickettsia's	Dr A. Mirzaei	۱۱-۱۲	۰۵/۱۰/۲۲
49	Mycoplasma	Dr H. Fazeli	۹-۱۰	۰۵/۱۰/۲۳
50	Gram- positive Bacilli; Corynebacterium	Dr J. Faghri		Compensator y
51	Yersinia and Pasteurella	Dr J. Faghri		Compensator y