



Jordan University of Science and Technology
Faculty of Science & Arts
Biotechnology & Genetic Engineering Department

HSS231BT General Microbiology - JNQF Level: 7

First Semester 2024-2025

Course Catalog

3 Credit Hours. This course will give an introduction to the microbial world. Students will gain knowledge of the diversity of prokaryotes, their development, structure and function. They will gain an understanding of prokaryotic metabolism, nutrition, growth and different methods that are used to control microbial growth in industrial and medical settings, as well as, the use of antimicrobial chemotherapeutic drugs to treat infections. The major classes of bacteria, viruses and fungi will be thoroughly discussed and students will gain knowledge about host-pathogen relationships.

Teaching Method: On Campus

Text Book

Title	Prescott's Microbiology Willey, Sherwood and Woolverton, 10th edition 2017, McGraw- Hill Publisher
Author(s)	Willey, Sherwood, Woolverton.
Edition	10th Edition
Short Name	1
Other Information	

Instructor

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Office Hours	
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Instructor

Name	Prof. Ziad Jaradat
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Class Schedule & Room
Section 1: Lecture Time: Sun, Tue, Thu : 12:30 - 13:30 Room: SB13 Section 2: Lecture Time: Mon, Wed : 11:30 - 13:00 Room: SB19

Tentative List of Topics Covered		
Weeks	Topic	References
Weeks 1, 2	Bacterial Cell Structure	Chapter 3 (Pages 42-77) From 1
Weeks 3, 4	Viruses and other acellular agents	Chapter 6 (pages 109-130) From 1
Weeks 4, 5	Microbial Growth	Chapter 7 (Pages 132-169) From 1
Weeks 6, 7	Control of microorganisms in the environment	Chapter 8 (Pages 172-186) From 1
Weeks 7, 8	Antimicrobial chemotherapy	Chapter 9 (Pages 188-206) From 1
Week 9	Microbial Taxonomy and evolution of diversity	Chapter 19 (Pages 443-452) From 1
Weeks 10, 11, 12	Bacteria: The Proteobacteria	Chapter 22 (Pages 504-537) From 1
Weeks 12, 13	Firumicutes: The low G+C gram positive bacteria	Chapter 23 (Pages 539-550) From 1
Weeks 13, 14	Actinobacteria: The high G+C gram positive bacteria	Chapter 24 (Pages 568-580) From 1
Week 15	Fungi (Eumycota)	Chapter 26 (Pages 583-596) From 1
Week 16	Pathogenicity and infection	Chapter 35 (Pages 770-784) From 1

Mapping of Course Outcomes to Program Outcomes and NQF Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Describe: the surface structure and internal structure of bacterial cells and viruses and their functions; other acellular agents of importance; the nutritional and physical requirements for bacterial growth. [1SLO1] [1L7K1]	30%	
Describe: the effect of the environment on bacteria and the dynamics and measurement of the growth of a bacterial population; the use of physical and chemical methods including antimicrobial chemotherapeutic agents to control microbial growth in industrial and medical settings; microbial taxonomy using molecular methods. [1SLO1] [1L7K1]	30%	
Be familiar with: the major groups of bacteria and fungi and their importance in the environment, in medicine, and in the food industry; the factors that influence transmission of pathogens and the occurrence of infectious diseases. [1SLO1] [1L7K1]	40%	

Relationship to Program Student Outcomes (Out of 100%)					
SLO1	SLO2	SLO3	SLO4	SLO5	SLO6
100					

Relationship to NQF Outcomes (Out of 100%)
L7K1
100

Evaluation	
Assessment Tool	Weight
First Exam	30%
Second Exam	30%
Final Exam	40%

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