



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

BT231 General Microbiology

First Semester 2023-2024

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.

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

Name	Prof. Homa Darmani
Office Location	PH1L1
Office Hours	
Email	darmani@just.edu.jo

Instructor

Name	Prof. Ziad Jaradat
Office Location	PH1L1
Office Hours	
Email	jaradat@just.edu.jo

Class Schedule & Room
<p>Section 1: Lecture Time: Sun, Tue, Thu : 11:30 - 12:30 Room: مدرج عرار</p> <p>Section 2: Lecture Time: Sun, Tue, Thu : 13:30 - 14:30 Room: مدرج عرار</p> <p>Section 3: Lecture Time: Mon, Wed : 11:30 - 13:00 Room: مدرج عرار</p>

Prerequisites		
Line Number	Course Name	Prerequisite Type
961020	BT102 General Biology (2)	Prerequisite / Pass

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	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. [1A, 1C]	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. [1A, 1C]	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. [1A, 1C]	40%	

Relationship to Program Student Outcomes (Out of 100%)					
A	B	C	D	E	F
50		50			

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

Policy	
Attendance	Class attendance is mandatory. Absences in excess of 20% of the total lecture hours will result in your being dropped from the course with a failing grade.
Makeup Exam	Make-up exam appeals should be filed within Two days of the missed exam.
Quizzes	The grade for each quiz will be given to students who answer the question correctly AND who scan the QR code ?a student who does not scan the QR CODE for attendance (for whatever reason) will lose the mark.
Cell phones	Cell phones are prohibited during examinations and must be turned off during the lecture. No incoming or outgoing calls or text messages are allowed.
Unethical conduct	Unethical conduct, including cheating during examinations, will result in punishment by the university administration as per cheating rules and regulations.

Date Printed: 2023-10-05