



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

BT233 General Microbiology Laboratory

First Semester 2021-2022

Course Catalog

1 Credit Hours. Laboratory exercises designed to familiarize students with basic skills required for working with bacteria, bacteriophages, and fungi in the lab. It includes isolation, purification, cultivation, smear preparation, staining of the bacteria, performing tests to classify and identify the major groups of bacteria, and studying microbial growth control methods. Upon completion of this lab course, students will acquire basic microbiology techniques and principles. The students will get first-hand experience that will coincide with what is taught in the lecture portion of the class.

Text Book

Title	Microbiology: A laboratory Manual
Author(s)	James Cappuccino and Natalia Sherman
Edition	10th Edition
Short Name	Manual of Microbiology
Other Information	

Course References

Short name	Book name	Author(s)	Edition	Other Information
Handouts	Handout of microbiology	No	13th Edition	

Instructor

Name	Mr. Bayen Mahawreh
Office Location	-
Office Hours	
Email	bmahawreh@just.edu.jo

Class Schedule & Room

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Section 1:

Lecture Time: Sun : 10:30 - 12:30

Room: LAB 5 (PH2 L0)

Section 2:

Lecture Time: Sun : 10:30 - 12:30

Room: LAB 6 (PH2 L0)

Section 3:

Lecture Time: Sun : 12:30 - 14:30

Room: LAB 5 (PH2 L0)

Section 4:

Lecture Time: Sun : 12:30 - 14:30

Room: LAB 6 (PH2 L0)

Section 5:

Lecture Time: Sun : 14:30 - 16:30

Room: LAB 5 (PH2 L0)

Section 6:

Lecture Time: Sun : 14:30 - 16:30

Room: LAB 6 (PH2 L0)

Section 7:

Lecture Time: Mon : 08:30 - 10:30

Room: LAB 5 (PH2 L0)

Section 9:

Lecture Time: Mon : 10:30 - 12:30

Room: LAB 6 (PH2 L0)

Section 11:

Lecture Time: Mon : 12:30 - 14:30

Room: LAB 5 (PH2 L0)

Section 12:

Lecture Time: Mon : 12:30 - 14:30

Room: LAB 6 (PH2 L0)

Section 13:

Lecture Time: Mon : 14:30 - 16:30

Room: LAB 6 (PH2 L0)

Section 14:

Lecture Time: Mon : 14:30 - 16:30

Room: LAB 5 (PH2 L0)

Section 15:

Lecture Time: Tue : 08:30 - 10:30

Room: LAB 5 (PH2 L0)

Section 17:

Lecture Time: Tue : 10:30 - 12:30

Room: LAB 5 (PH2 L0)

Section 18:

Lecture Time: Tue : 10:30 - 12:30

Room: LAB 6 (PH2 L0)

Section 19:

Lecture Time: Tue : 12:30 - 14:30

Room: LAB 5 (PH2 L0)

Section 20:

Lecture Time: Tue : 12:30 - 14:30

Room: LAB 6 (PH2 L0)

Section 21:

Lecture Time: Tue : 14:30 - 16:30

Room: LAB 5 (PH2 L0)

Section 22:

Lecture Time: Tue : 14:30 - 16:30

Room: LAB 6 (PH2 L0)

Section 23:

Lecture Time: Wed : 08:30 - 10:30

Room: LAB 5 (PH2 L0)

Section 25:

Lecture Time: Wed : 10:30 - 12:30

Room: LAB 5 (PH2 L0)

Section 27:

Lecture Time: Wed : 12:30 - 14:30

Room: LAB 5 (PH2 L0)

Section 28:

Lecture Time: Wed : 12:30 - 14:30

Room: LAB 6 (PH2 L0)

Section 29:

Lecture Time: Wed : 14:30 - 16:30

Room: LAB 5 (PH2 L0)

Section 30:

Lecture Time: Wed : 14:30 - 16:30

Room: LAB 6 (PH2 L0)

Prerequisites

Line Number	Course Name	Prerequisite Type
962310	BT231 General Microbiology	Pre./Con.

Tentative List of Topics Covered

Weeks	Topic	References
Week 1	Regulation and management of microbiology lab.,	Pages 1-6 From Ref #1 From Manual of Microbiology, From Ref #2 From practical microbiology, laboratory safety From Handouts From Handouts

Week 2	The microscope and Microscopic examination of living bacterial Preparation:	Pages 35-44 & 45-50 From Ref #1 From practical microbiology From Manual of Microbiology
Week 3	Bacterial staining	Pages 37-41 & 55-74 From Ref #1 From practical microbiology From Manual of Microbiology
Week 4	Bacterial staining: Gram staining	Pages 75-80 From Ref #1 From practical microbiology From Manual of Microbiology
Week 5	Bacterial staining: Acid fast staining, endospore staining, capsule staining	pages 81-95 From Ref #1 From practical microbiology, From Manual of Microbiology, hand outs of capsule staining From Handouts From Handouts
Week 6	Techniques for isolation of pure cultures	Pages 19-28 & 29-34 From Ref #1, From practical microbiology, From Manual of Microbiology, From Handouts
Week 7	Week 8 Physical factors	Pages 117-126, 289-312 & 319-326 From Ref #1 From practical microbiology, From Manual of Microbiology, Growth morphology and control of bacterial growth From Handouts From Handouts
Week 8	Biochemical activities of Microorganisms	Pages 159-194 From Ref #1 From practical microbiology, Pages 195-228 From Ref #1 From practical microbiology From Manual of Microbiology, Biochemical test From Handouts

Mapping of Course Outcomes to Program Student Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Demonstrate knowledge and comprehension of core concepts, which includes but is not limited to knowledge of cell biology, biochemistry, genetics, molecular biology, microbiology and immunology. [1B]	10%	
Correctly perform microbiologic lab skills and display a habit of good lab practices, which extends to relevant situations in the students homes. [1B]	15%	
Demonstrate appropriate laboratory skills and techniques related to the staining of bacteria and estimating the number of microorganisms in a sample [1B]	15%	
Demonstrate appropriate laboratory skills to isolate bacteria and testing antimicrobial activity of agents [1B]	15%	
Explain principles of physical and chemical methods used in the control of microorganisms to prevent and control infectious diseases [1B]	15%	
Demonstrate appropriate laboratory skills related to the identification of bacteria using biochemical testing and metabolism [1B]	15%	
Learn how to make careful observations, collect and analyze data, and draw appropriate conclusions [1B]	15%	

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

Evaluation	
Assessment Tool	Weight
Practical and Quizzes	25%
Midterm Exam	25%
Final Exam	50%

Policy	
Class attendance	Your 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 Exams	Make-up exam appeals should be filed within one week of the missed exam
Cell Phones	Cell phones are prohibited during examinations and must be turned off during lecture. No incoming or outgoing calls or text messages are allowed
Cell Phones	Cell phones are completely prohibited during examinations according to the university regulations i.e. you are not allowed to bring your phone into the exam hall
Cheating	Unethical conduct, including cheating during examinations, will result in punishment by the university administration

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