Course Specification

(Bachelor)

Course Title:	Basic Microbiology
Course Code:	HLT 203
Program:	Bachelor
Department:	Medical Laboratory Technology
College:	Shared Courses Unit
Institution:	Jazan University
Version:	2025-1
Last Revision Date:	18/08/2024

Table of Contents

A. General information about the course:

1. Course Identification

1. Credit hours: (2+1=3 hrs)					
2. Course type					
A.	☐University	☒ College	☐Department	☐Track	☐Others
B.	☒ Required		☐Elective		
3. Level/year at which this course is offered: (3rd level)					
4. Course general Description:					
Basic Microbiology course is designed for students with some background in biology whose career path intersect or involves dealing with microbes. This course introduces the basic principles of microbiology, examining the microbes that inhabit our planet and our body and their effects on individuals' health. Students will analyze the impact of microbiology on our lives and the means to control and understand microbial growth and spread.					
5. Pre-requirements for this course (if any)**:**					
Biology courses in the preparatory year.					
6. Co-requisites for this course (if any)**:**					
NIL					
7. Course Main Objective(s):					
• Introduction to Microbiology, classification, and impact of Microorganisms on our life. • The significance of controlling microorganisms' growth and spreading. • The microbial structure and importance of each part in its pathogenicity. • A basic knowledge of some of the basic diagnostic methods used in clinical Microbiology. • Introduced to some essential antimicrobial agents and antibiotic resistance and how they occur.					

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	4 hrs	100%
2	E-learning		
3	Hybrid • Traditional classroom • E-learning		
4	Distance learning		

3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	**Lectures**	2 hrs * 15 weeks =30 hrs
2.	**Laboratory/Studio**	2hrs * 15 weeks = 30 hrs
3.	**Field**	-
4.	**Tutorial**	
5.	**Others (specify)**	
Total		60 hours /semester

B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of PLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	**Knowledge and understanding**			
1.1	Integrate theoretical knowledge of microbial classification, identification, growth and reproduction to be used for diagnosis.	**K**	- Lectures - Small group discussion	- Written exam. -Assignment evaluation
1.2	Know the basic techniques for microbial characterization.	**K**	- Lectures - Small group discussion	- Written exam. -Assignment evaluation

Code	Course Learning Outcomes	Code of PLOs aligned with program	Teaching Strategies	Assessment Methods
1.3	Gain the basic information about microorganisms, their hosts and factors affecting microbial growth.	**K**	-Lectures -Small group discussion	- Written exam. -Assignment evaluation
2.0	**Skills**			
2.1	Demonstrate the suitable environment for bacterial strains and its effects on their function under different ecological conditions.	**S**	-Practical guidance and demonstration.	- Practical exam. - Lab reports
2.2	Use the biochemical tests as indicator to identify the bacterial strains	**S**	-Practical guidance and demonstration.	- Practical exam. - Lab reports
3.0	**Values, autonomy, and responsibility**			
3.1	Demonstrate a good teamwork practice during lab sessions	**C**	- Presentation - Lab Demonstration	-Continuous assessment during lab session

C. Course Content

No	List of Topics	Contact Hours
1.	Introduction to Microbiology and Microorganisms Safety rule in Microbiology laboratory and Instrumentations	L 02 P 02
2.	Microbial Taxonomy and Classification Microbiological media & preparation / Sterile and aseptic techniques	L 02 P 02
3.	Control of Microbial growth and spread. Isolation of pure culture, Simple staining, and Microscopy.	L 02 P 02
4.	Microbial structure Special stain & Biochemical tests of Gram-positive bacteria	L 02 P 02
5.	Basic nutritional, Chemical and physical requirements	L 02

	Isolation and Identification of Gram-Negative Bacteria	P 02
6.	Normal Flora of human body Gram Negative Biochemical Tests.	L 02 P 02
7.	Microbial pathogenicity and opportunistic pathogen Isolation and Identification of fungi	L 02 P 02
8.	Introduction to Parasitology and parasitic infections Isolation and Identification of Parasites	L 02 P 02
9.	Food Microbiology & Food borne pathogens. Isolation and Identification of Bacteria / Fungi	L 02 P 02
10.	Host-Pathogen interaction Antibiotic Susceptibility Test	L 02 P 02
11.	Antimicrobial agents Antibiotic Susceptibility Test	L 02 P 02
12.	Introduction to Microbiology and Microorganisms Safety rule in Microbiology laboratory and Instrumentations	L 02 P 02
13.	Microbiology and Microorganisms Isolation of pure culture	L 02 P 02
14.	Microbiology and Microorganisms Gram Stain	L 02 P 02
15.	Oral presentation	
16.	Practical Final exam	
Total		**15 hours**

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Mid-term theory exam	8th	20%
2.	Lab continuous assessment (Practical assignment + Lab assessment + Oral presentation)	12th	20%
3.	Practical Final exam	16th	20%
4.	Theory exam	18th	40%

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.).

E. Learning Resources and Facilities

1. References and Learning Resources

Essential References	a. Harvey, R.A. AND Cornelissen, C.N. (2012). Microbiology, *3rd edition*. Lippincott Williams and Wilkins. b. Practical Handbook of Microbiology; By Goldman E, 2004. c. Brooks, G.F., Butel, J.S. and Morse, S.A. (2001). Medical Microbiology. Twenty-second edition. d. Lnge Medical Books/McGraw-Hill.Medical Publishing Division.
Supportive References	1. Tille, P. (2013). Bailey & Scott's Diagnostic Microbiology (13th ed.). Mosby. 2. Procop, G. W., & Koneman, E. W. (2016). Koneman's Color Atlas and Textbook of Diagnostic Microbiology (7th or latest ed.)
Electronic Materials	Saudi Digital Library (SDL)
Other Learning Materials	Blackboard software

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	Classroom, laboratory
Technology equipment (projector, smart board, software)	Data show, Smart Board, PC or laptop
Other equipment (depending on the nature of the specialty)	Lab equipment like (electronic pipettes, beakers flasks…etc.)

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Students	Direct
Effectiveness of Students' assessment	Program Leaders	Indirect
Quality of learning resources	Program Leaders	Indirect
The extent to which CLOs have been achieved	Program Leaders	Indirect
Other		

Assessors (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	

REFERENCE NO.	
DATE	