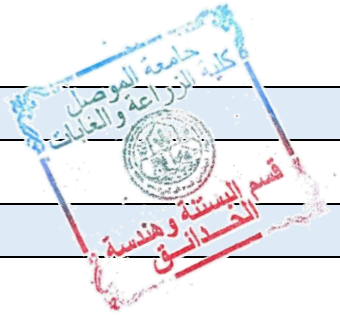
Course Description Form



1. Course Name:	
Principles of microbiology	
2. Course Code:	
PRMB205	
3. Semester / Year:	
First semester (fall) / 2024−2025	
4. Description Preparation Date:	
1/9/2024	
5. Available Attendance Forms:	
Presence+ Electronic	
6. Number of Credit Hours (Total) / Number of Units (Total)	
2 theoretical hours + 3 practical hours (75 hours) / 3.5 units	
7. Course administrator's name (mention all, if more than one name)	
Name: Dr.Jwan Khaled mohi and Wadala Hashem Abod	
8. Course Objectives	
Theoretical - Enabling the student to understand everything related to microbiology - Enable the student to know the classification of microorganisms - Enabling the student to become familiar with the ways of living microorganisms - Enabling the student to reveal the relationship of microorganisms to each other - The student can understand the relationship between microorganisms Humans and foods	Practical -Enabling the student to understand microbiology and its life applications -Enable the student to use a microscope and examine samples -Knowing the different types and shapes of microorganisms through their dyeing - Enable the student to prepare slides for examination and measure bacterial movement -The student judges the different sterilization methods and their efficiency - Enabling the student to prepare suitable culture media for microorganisms
9. Teaching and Learning Strategies	
Theoretical	Practical

- Interactive lecture - Brainstorming - Dialogue and discussion - Assigning reports -Conducting monthly and daily examinations	Interactive lecture -Discussion, dialogue, brainstorming -Conducting laboratory experiments -Assigning reports -Conducting daily and monthly examinations

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2Theoretical 3Practical	**THEORETICAL** B1;The student demonstrates the concept and its origin Microbiology **PRACTICAL** B6;The student learns ab science Microbiology The microscope and how to use it	**THEORETICAL** Introduction to microbiology And the stages of development **PRACTICAL** Microscope and its uses	**THEORETICAL** audio methods, Writing on the board Direct dialogue style **PRACTICAL** Assigning tasks and reports	Shortexams, assignments, discussions
2	2Theoretical 3Practical	**THEORETICAL** C1;The student becomes familiar with the characteristics of living things Culture microscop And chemical **PRACTICAL** B7;The student can prepare Slides and bacterial staining With a fine dye	**THEORETICAL** Morphological characteristics For microbiology **PRACTICAL** Gram stain	**THEORETICAL** audio methods, Writing on the board Direct dialogue style **PRACTICAL** Assigning tasks and reports	Shortexams, assignments, discussions
3	2Theoretical 3Practical	**THEORETICAL** B2;The student hits a wallCell and structures external to bacteria **PRACTICAL** C4;The student gets to know Bacteria Acid resistant its dyed and examined it	**THEORETICAL** External structur of bacteria **PRACTICAL** Acid-fast bacteria	**THEORETICAL** audio methods, Writing on the board Direct dialogue style **PRACTICAL** Assigning tasks and reports	Shortexams, assignments, discussions
4	2Theoretical 3Practical	**THEORETICAL** B3,b4;The student hits awall Cell and structures external to bacteria **PRACTICAL** B8;Distinguish vegetative cells from spores	**THEORETICAL** External structur of bacteria **PRACTICAL** Painting blackboards	**THEORETICAL** audio methods, Writing on the board Direct dialogue style **PRACTICAL** Assigning tasks and reports	Shortexams, assignments, discussions

5	2Theoretical 3Practical	**THEORETICAL** C2;The student gets to know the contents Cytoplasm and bacterial movement **PRACTICAL** D2;Enable the student to operate Biology laboratory equipment Microscopic	**theoretical** Internal structures of bacteria **PRACTICAL** Laboratory equipment Microbiology	**THEORETICAL** audio methods, Writing on the board Direct dialogue style **PRACTICAL** Assigning tasks and reports	Shortexams, assignments, discussions
6	2Theoretical 3Practical	**THEORETICAL** A1;The student recognize the elements Nutritional and physical Affect the growth of organisms Microscopic **PRACTICAL** B9;The student can See the movement of bacteria Under the microscope	**THEORETICAL** Microbiology development **PRACTICAL** Examination of bacterial Movement By hanging drop	**THEORETICAL** audio methods, Writing on the boardDirect dialogue style **PRACTICAL** Assigning tasks and reports	Shortexams, assignments, discussions
7	2Theoretical 3Practical	**THEORETICAL** A2;The student is familiar with the food environment Its composition and types **PRACTICAL** B10;The student can use Hemocytometer slide	**THEORETICAL** Food environments **PRACTICAL** Count bacteria by Hemocytometer slide	**THEORETICAL** audio methods, Writing on the board Direct dialogue style **PRACTICAL** Assigning tasks and reports	Shortexams, assignments, discussions
8	2Theoretical 3Practical	**THEORETICAL** C3;The student judges the curves Microorganism growth and methods Its reproduction **PRACTICAL** C5;Scientific visit	**THEORETICAL** Microorganism growth curves **PRACTICAL** Scientific visit	**THEORETICAL** audio methods, Writing on the board Direct dialogue style **PRACTICAL** Assigning tasks and reports	Shortexams, assignments, discussions
9	2Theoretical 3Practical	**THEORETICAL** A3;The student learns methods Count direct and non-bacteria bacteria Direct **PRACTICAL** C6;The student can Count Bacteria in milk samples	**THEORETICAL** Types of farms and counting methods Bacteria **PRACTICAL** Test and estimateNumber of bacteria in milk	**THEORETICAL** audio methods, Writing on the board Direct dialogue style **PRACTICAL** Assigning tasks and reports	Shortexams, assignments, discussions
10	2Theoretical 3Practical	**THEORETICAL** A4;The student is familiar with fungi	**THEORETICAL** General characteristics of fungi	**THEORETICAL** audio methods,	Shortexams, assignments, discussions

		And mold and its importance **PRACTICAL** B11;The student can Count the bacteria after cultivation	**PRACTICAL** Count bacteria by Molded dishes	Writing on the board Direct dialogue style **PRACTICAL** Assigning tasks and reports	
11	2Theoretical 3Practical	**THEORETICAL** A5;The student is Judged exterior For molds and their uses **PRACTICAL** B12;The student can Collect Samples from different sources	**THEORETICAL** Methods of mold reproduction Its types and uses **PRACTICAL** Count bacteria by Molded dishes	**THEORETICAL** audio methods, Writing on the board Direct dialogue style **PRACTICAL** Assigning tasks and reports	Shortexams, assignments, discussions
12	2Theoretical 3Practical	**THEORETICAL** B5;The student explains the definition Yeasts and their types And uses **PRACTICAL** B13;The student learns about methods Various sterilizations And ways to use it	**THEORETICAL** Yeasts **PRACTICAL** Sterilization	**THEORETICAL** audio methods, Writing on the board Direct dialogue style **PRACTICAL** Assigning tasks and reports	Shortexams, assignments, discussions
13	2Theoretical 3Practical	**THEORETICAL** D1;Thestudentknows definition Fungi and their types And its us **PRACTICAL** B14;The student gets know Examinations and tests Water validity And its microbial content	**THEORETICAL** Fungi **PRACTICAL** Water tests	**THEORETICAL** audio methods, Writing on the board Direct dialogue style **PRACTICAL** Assigning tasks and reports	Shortexams, assignments, discussions
14	2Theoretical 3Practical	**THEORETICAL** E1;Student governed definition Viruses and clarification Its types and ways of infection **PRACTICAL** B15;The student can Preparing the culture me Different and necessary For the growth microorganisms	**THEORETICAL** Viruses **PRACTICAL** Cultivation media	**THEORETICAL** audio methods, Writing on the board Direct dialogue style **PRACTICAL** Assigning tasks and reports	Shortexams, assignments, discussions
15	2Theoretical 3Practical	**THEORETICAL** E2;The student is familiar with the relationship between living things	**THEORETICAL** Microbiology relationship With food	**THEORETICAL** audio methods,	Shortexams, assignments, discussions

		Food microscopy **PRACTICAL** A6;The student reviews the curriculum Detailed and fast	**PRACTICAL** review	Writing on the board Direct dialogue style **PRACTICAL** Assigning tasks and reports	

11. Course Evaluation

t	Evaluation methods	Evaluation date (one week)	Grade	Relative weight %
1	Final theoretical report + theoretical practical reports	Theoretical 15 weeks Practical 1-15 weeks	7theoretical + 6 practical	13%
2	Short test 1 Quiz	3 weeks	4theoretical + 2practical	6%
3	Midterm exam (theoretical and practical)	9 weeks	10theoretical + 5 practical	15%
4	Short test 2 Quiz	12 weeks	4 theoretical + 2 practical	6%
5	Final practical test	practical exams week	20	20%
6	Final theoretical exam	theoretical exams week	40	40%
			100	100

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Principles of microbiology / Dr. Fayez Al-Ani And Dr. Amin Suleiman Badawi
Main references (sources)	
Recommended books and references (scientific journals, reports…)	Food microbiology by book , Doyle, Buchanan
Electronic References, Websites	

Subject teacher
Wadala Hashem Abod

Subject teacher
Dr.Jwan Khaled Mohi

Chairman of the Scientific Committee
Prof. Dr. Jassim Mohammed Alwan

Head of the department
Prof. Dr. Asmaa Muhammad Adel