

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:	
Built-in	
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. Saif Ali Mohammed and Waadallah Hashem Abod	
8. Course Objectives	
Theoretical <ul style="list-style-type: none"> - 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 <ul style="list-style-type: none"> -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 <ul style="list-style-type: none"> - Interactive lecture - Brainstorming - Dialogue and discussion - Assigning reports -Conducting monthly and daily examinations 	Practical <ul style="list-style-type: none"> 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 B1;The student learns about science Microbiology The microscope and how to use it	THEORETICAL Introduction to microbiology And the stages of its 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 microscopyAnd chemical PRACTICAL B2;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 structure external to bacteria PRACTICAL C1;The student gets to know Bacteria Acid resistant He dyed and examined	THEORETICAL External structures 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 a wall Cell and structures external to bacteria PRACTICAL B3;Distinguish vegetative cells from spores	THEORETICAL External structures bacteria PRACTICAL Painting blackboard	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 bacteria movement PRACTICAL	theoretical Internal structures of bacteria PRACTICAL	THEORETICAL audio methods, Writing on the board Direct dialogue style	Shortexams, assignments, discussions

		D1;Enable the student to operate Biology laboratory equipment Microscopic	Laboratory equipment Microbiology	PRACTICAL Assigning tasks and reports	
6	2Theoretical 3Practical	THEORETICAL A1;The student recognizes the element Nutritional and Physical Affect the growth of organisms Microscopic PRACTICAL B4;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 board Direct 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 B5;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 C2;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-bacterial bacteria Direct PRACTICAL C3;The student can Count Bacteria in milk samples	THEORETICAL Types of farms and counting methods Bacteria PRACTICAL Test and estimate Number of bacteria 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 And mold and its importance PRACTICAL C4;The student can	THEORETICAL General characteristics of fungi PRACTICAL Count bacteria by	THEORETICAL audio methods, Writing on the board Direct dialogue style PRACTICAL	Shortexams, assignments, discussions

		Count the bacteria after cultivation	Molded dishes	Assigning tasks and reports	
11	2Theoretical 3Practical	THEORETICAL A5;The student is Judged exterior For molds and their uses PRACTICAL B6;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 B7;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;The student knows the definition Fungi and their types And its use PRACTICAL B8;The student gets know Examinations and tests Water validity And its microb 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 E1;The student can Preparing the culture media 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	THEORETICAL Microbiology relationship With food	THEORETICAL audio methods, Writing on the board	Shortexams, assignments, discussions

	between living thingsFood microscopy PRACTICAL D2;The student review the curriculum Detailed and fast	PRACTICAL review	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	

Teacher of Theory : Dr. Saif Ali Muhammad

Teacher of Practical : M.M Wadallah Hashem Abboud

Chairman of the Scientific Committee : Dr. Mohammed Younes Al – Alaf

Head of the Dept. of Forestry Sciences: Dr. Mozahim Said Younes

