



Course Description Form

1. Course Name:	
Principles of microbiology	
2. Course Code:	
PRMB205	
3. Semester / Year:	
First semester (fall) / 2023–2024	
4. Description Preparation Date:	
1/2/2024	
5. Available Attendance Forms:	
Presence	
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.Shaymaa Jawad Mahmood and Waadallah 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 - Interactive lecture	Practical Interactive lecture

<ul style="list-style-type: none"> - Brainstorming - Dialogue and discussion - Assigning reports -Conducting monthly and daily examinations 	<ul style="list-style-type: none"> -Discussion, dialogue, brainstorming -Conducting laboratory experiments -Assigning reports -Conducting daily and monthly examinations
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10. Course Structure

Wee k	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 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 microscopy And chemical PRACTICAL B7;The student can prepare Slides 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 wall Cell and structures external to bacteria PRACTICAL C4;The student gets to know Bacteria Acid resistant He dyed and examined it	THEORETICAL External structures 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 a wall Cell and structures external to bacteria PRACTICAL B8;Distinguish vegetative cells From spores	THEORETICAL External structures 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 recognizes the elements Nutritional and physical Affect the growth of Organisms Microscopic PRACTICAL	THEORETICAL Microbiology developm PRACTICAL Examination of bacteria	THEORETICAL audio methods, Writing on the board Direct dialogue style PRACTICAL	Shortexams, assignments, discussions

		B9;The student can See the movement of bacteria Under the microscope	movement By hanging drop	Assigning tasks and reports	
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-bacterial bacteria Direct PRACTICAL C6;The student can count Bacteria in milk samples	THEORETICAL Types of farms and counting methods Bacteria PRACTICAL Test and estimate Number 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 And mold and its importance PRACTICAL B11;The student can Count the bacteria after cultivation	THEORETICAL General characteristics of fungi PRACTICAL Count bacteria by Molded dishes	THEORETICAL audio methods, Writing on the board Direct dialogue style PRACTICAL Assigning tasks and reports	Shortexams, assignments, discussions
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;The student knows the definition Fungi and their types And its uses PRACTICAL B14;The student gets to 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 ways of infection	THEORETICAL Viruses	THEORETICAL audio methods, Writing on the board Direct dialogue style	Shortexams, assignments, discussions

		PRACTICAL B15;The student Can Preparing the culture Media Different and necessary For the growth of microorganisms	PRACTICAL Cultivation media	PRACTICAL Assigning tasks and reports	
15	2Theoretical 3Practical	THEORETICAL E2;The student is familiar with the relationship between living things Food microscopy PRACTICAL A6;The student reviews the curriculum Detailed and fast	THEORETICAL Microbiology relations With food PRACTICAL review	THEORETICAL audio methods, Writing on the board Direct dialogue style PRACTICAL Assigning tasks and reports	Shortexams, assignments, discussions

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	

مدرس المادة العملي
م.م. وعدا لله هاشم عبود

مدرس المادة النظري
م.د. شيماء جواد محمود



رئيس قسم البستنة وهندسة الحدائق

رئيس اللجنة العلمية

ا.د. اسماء محمد عادل

ا.د. نبيل محمد امين الامام

