## Course Description Form

## Course Name: Principles of microbiology 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 Enas Mounir Abdel Majeed

## 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
- Brainstorming
- Dialogue and discussion
- Assigning reports
- -Conducting monthly and daily examinations

Practical

Interactive lecture

- -Discussion, dialogue, brainstorming
- -Conducting laboratory experiments
- -Assigning reports
- -Conducting daily and monthly examinations

Wee	Hours	Required Learning	Unit or subject	Learning	Evaluation	
k		Outcomes	name	method	method	
1					Shortexams,	
	3Practical	B1;The student			assignments	
		demonstrates the	-		discussions	
		concept and its origin	And the stages of			
		Microbiology	development	dialogue style		
		PRACTICAL		PRACTICAL		
		B6;The student learns ab	•	Assigning tasks		
		science Microbiology	its uses	and reports		
		The microscope and				
		how to use it			Cl	
2		THEORETICAL	THEORETICAL		Shortexams,	
		C1;The student becomes	Man Comment		assignments	
		familiar with the	characteristics	0	discussions	
		characteristics of living	For microbiology			
		things Culture microscop	11:11	dialogue style		
		And chemical	(0/06/06/06/06/06/06/06/06/06/06/06/06/06	PRACTICAL		
		PRACTICAL	Gram stain	Assigning tasks		
		B7;The student can	o This way	and reports		
		prepare Slides and	Lawrence Ren			
		bacterial staining				
		With a fine dye	THEODER	THEODERICAL	Chantarr	
3	2Theoretical	· • • • • • • • • • • • • • • • • • • •	THEORETICAL External extructure	THEORETICAL andio methods	Shortexams	
	3Practical	B2;The student hits a	External structur	1 " I	discussions	
		wallCell and structures	of bacteria	Writing on the	uiscussiulls	
		external to bacteria	DDACTICAI	dialogue style		
		PRACTICAL  CA.Tho student gets to	PRACTICAL Acid-fast	dialogue style PRACTICAL		
		C4; The student gets to	Acid-fast bacteria			
		know Bacteria Acid	bacteria	Assigning tasks		
		resistant its dyed and		and reports		
	Omi	examined it	THEODETICAL	THEORETICAL	Shortexams	
4	2Theoretical	1	THEORETICAL  External structure		assignment	
	3Practical	B3,b4; The student hits	External structur		discussions	
		awall Cell and structures	1	Writing on the	uiscussiulis	
		external to bacteria	PRACTICAL	dialogue style		
		PRACTICAL DO-Dictinguich	Painting	dialogue style PRACTICAL		
		B8;Distinguish	blackboards	Assigning tasks		
		vegetative cells from		and reports		
	2001	Spores	thoorotical	and reports  THEORETICAL	Shortexams	
5	2Theoretical		Internal	audio methods,	assignment	
	3Practical	C2; The student gets to	Internal	Writing on the	discussions	
		know the contents	of hacteria	board Direct	arocussi0115	
		Cytoplasm and bacterial	of bacteria PRACTICAL	dialogue style		
		movement		PRACTICAL		
		PRACTICAL D2.Enable the student	Laboratory	Assigning tasks		
	1	D2;Enable the student	equipment	TIODIETHIE LOOKS		

		to operate Biology laboratory equipment	Microbiology	and reports	
					1
	1	Microcconic			
	2Thooretical	Microscopic THEORETICAL	THEODETICAL	THEODERAN	
6	2Theoretical 3Practical		THEORETICAL	THEORETICAL	Shortexams,
	SFIACUCAI	A1; The student recognize		audio methods,	assignments,
		the elements Nutritional	aevelopment	Writing on the	discussions
		and physical Affect the		boardDirect	
		growth of organisms	DD A COULCAY	dialogue style	
		Microscopic	PRACTICAL	PRACTICAL	
		PRACTICAL	Examination of	Assigning tasks	
		B9;The student can	bacterial	and reports	
		See the movement	Movement By		
		of bacteria Under the	hanging drop		
_	2771	microscope			
/	1 100	THEORETICAL	THEORETICAL	THEORETICAL	Shortexams,
	3Practical	A2;The student is	Food	audio methods,	assignments,
		familiar with the food	environments	Writing on the	discussions
		environment Its	1	board Direct	
		B	PRACTICAL CL	0 1 1	
		PRACTICAL D10.The student see	Count bacteria by	1111	
		B10; The student can use	/2/	The state of the s	
0	2Thooretical	Hemocytometer slide	slide	and reports	O1 .
Ø	3Practical	THEORETICAL	THEORETICAL	The Company of the State Company of the Company of	Shortexams,
	SFIactical	C3;The student judges	Microorganism	audio methods,	assignments,
		the curves	growth curves	Writing on the	discussions
		Microorganism		board Direct	
		growth and methods	DDACTICAI	dialogue style	
		Its reproduction PRACTICAL	PRACTICAL	PRACTICAL	
		C5;Scientific visit	Scientific visit	Assigning tasks	
0	2Theoretical	······································	THEODETICAL	and reports	Cl4
9	3Practical		Types of forms or		Shortexams,
	Ji i acticai		Types of farms an	* 11 * The County	assignments,
		and non-bacteria	counting method: Bacteria	•	discussions
		bacteria Direct	Accordance and the contract and the cont	board Direct	
		PRACTICAL	Test and	dialogue style PRACTICAL	
			estimateNumber		
		Walter to the common of the co	of bacteria in	and reports	
		milk samples	milk	andreports	
10	2Theoretical			THEORETICAL	Shortexams,
10	3Practical	A4;The student is	General	audio methods,	assignments,
		familiar with fungi	characteristics	Writing on the	discussions
			of fungi	board Direct	aiscussions
				dialogue style	
			Count bacteria by		
		B11;The student can	A281 5140 8401 4701 CO 9010 HOT	Assigning tasks	
		Count the bacteria	1.101ucu uisiics	and reports	
		NAME OF THE PARTY		andreports	
		after cultivation	1	1	1
11	2Theoretical	after cultivation  THEORETICAL	THEORETICAL	THEORETICAL	Shortexams,

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				IAIniting on the	discussions
					discussions
	i	For molds and their uses			
	i	PRACTICAL		dialogue style	
		DIL, IIIC COMMODITOR		PRACTICAL	
		Collect Samples from	Count bacteria by	Assigning tasks	
		different sources	Molded dishes	and reports	
12					Shortexams,
		B5;The student explains			assignments,
	Jiiacutai	the definition Yeasts and		1 Carried Carried Carried Carried Control Cont	discussions
		their types And uses		board Direct	
		PRACTICAL	PRACTICAL	dialogue style	
	1			PRACTICAL	
	1	D10,1110 000000	JULINZAUUII	Assigning tasks	
	1	about methods Various		and reports	
		sterilizations And ways		and reports	
		to use it			Clarat
13				THEORETICAL	Shortexams,
	1	D1;Thestudentknows	Fungi	audio methods,	assignments
		definition Fungi	Color-	Writing on the	discussions
		and their types And its us PRACTICAL	PRACTICAL !	board Direct	
		PRACTICAL	Water tests	The state of the s	
		B14;The student gets	1000 1000	PRACTICAL	
		know Examinations		Assigning tasks	
		and tests Water	- Barriani	and reports	
		validity And its	De all Agents of		
		microbial content			
		ALLEI ODIGI COMCINE			
14	2Theoretical	THEORETICAL	THEORETICAL	THEORETICAL	Shortexams,
14	3Practical	E1;Student governed	Viruses	audio methods,	assignments
	Jiraculai	definition Viruses and		Writing on the	discussions
		clarification Its types		board Direct	
				dialogue style	
		and ways of infection	PRACTICAL	PRACTICAL	
		PRACTICAL  B15.The student can	Cultivation	Assigning tasks	
		B15; The student can		and reports	
		Preparing the culture me	media	and reports	
		Different and necessary			
		For the growth			
		microorganisms			
					C1 .
15	2Theoretical	The contract of the contract o	THEORETICAL	THEORETICAL	Shortexams,
	3Practical	E2;The student is familia	1	audio methods,	assignments
		with the relationship	relationship	Writing on the	discussions
		between living things	With food	board Direct	
		Food microscopy		dialogue style	
		PRACTICAL	PRACTICAL	PRACTICAL	
	*	A6;The student reviews		Assigning tasks	
		the curriculum		and reports	
		Detailed and fast			
		Detuneu anu iast			
	1		I .	1	1

11.	Course Evaluation					
t	Evaluation methods	Evaluat week)	ion dat	e (one	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%
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12.	Learning and Teaching Resou	ırces				
Requ	ired textbooks (curricular books, if ar	1y)	10 AND 10		crobiology / Dr. F uleiman Badawi	ayez Al-Ani
Main	references (sources)					
Recommended books and references (scientific journals, reports)			Food microbiology by book , Doyle, Buchanan			
Electi	ronic References, Websites					

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