

## Course Description Form

<b>1. Course Name:</b>	
Dairy microbiology	
<b>2. Course Code:</b>	
DAMI372	
<b>3. Semester / Year:</b>	
Second semester (spring) / 2023–2024	
<b>4. Description Preparation Date:</b>	
1/2/2024	
<b>5. Available Attendance Forms:</b>	
Presence	
<b>6. Number of Credit Hours (Total) / Number of Units (Total)</b>	
2 theoretical hours + 3 practical hours (75 hours)/ 3.5 units	
<b>7. Course administrator's name (mention all, if more than one name)</b>	
Name: Dr.Shaymaa Jawad Mahmood Ruaa Adil Hamed	
<b>8. Course Objectives</b>	
<p>Theoretical</p> <ul style="list-style-type: none"> <li>- Enabling the student to understand everything related to dairy microbiology</li> <li>- Enabling the student to know the sources of contamination of milk and its products</li> </ul> <p>In microbiology</p> <ul style="list-style-type: none"> <li>- Enabling the student to become familiar with the general lactic acid bacteria</li> <li>- Enabling the student to reveal the relationship of microorganisms to each other</li> <li>- The student can determine the methods of eliminating polluted neighborhoods</li> </ul> <p>For dairy products</p> <ul style="list-style-type: none"> <li>- Enable the student to know the prefixes used in milk products</li> </ul>	<p>Practical</p> <ul style="list-style-type: none"> <li>- Enabling the student to become familiar with the most important laboratory methods for detection</li> </ul> <p>Dairy microbiology and practical experiments to diagnose biology Contaminated dairy products</p>
<b>9. Teaching and Learning Strategies</b>	
<p>Theoretical</p> <ul style="list-style-type: none"> <li>- Interactive lecture</li> <li>- Brainstorming</li> <li>- Dialogue and discussion</li> <li>- Assigning reports</li> <li>-Conducting monthly and daily examinations</li> </ul>	<p>Practical</p> <ul style="list-style-type: none"> <li>Assigning group work to reveal the student's leadership skills</li> <li>Assigning tasks and reports for each experiment</li> </ul>

## 10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2Theoretical 3Practical	<b>THEORETICAL</b> B1;The student explains the concept of milk A medium for the growth of microorganism <b>PRACTICAL</b> B1;Familiar with sampling method For parts of Microbiology examinations	<b>Theoretical</b> Milk as a growth medium Microscopic microbes <b>Practical</b> Samples are prepared for examination Microbiology	<b>THEORETICAL</b> audio methods, Writing on the board Direct dialogue style <b>PRACTICAL</b> Assigning tasks and reports	Shortexams, assignments, discussions
2	2Theoretical 3Practical	<b>Theoretical</b> C1;The student knows how milk is contaminated And its products <b>Practical</b> B2;Proficient in reduction tests Tinctures	<b>Theoretical</b> Sources of milk contamination With microbes <b>Practical</b> Dye Reduction assays	<b>THEORETICAL</b> audio methods, Writing on the Board Direct Dialogue style <b>PRACTICAL</b> Assigning tasks and reports	Shortexams, assignments, discussions
3	2Theoretical 3Practical	<b>Theoretical</b> B2;The student determines the genera of bacteria Producing lactic acid <b>Practical</b> C1;Distinguishes the most important characteristics of bacterium	<b>Theoretical</b> Lactic acid bacteria genera <b>Practical</b> Methods for Detecting coli bacteria	<b>THEORETICAL</b> audio methods, Writing on the Board Direct Dialogue style <b>PRACTICAL</b> Assigning tasks and reports	Shortexams, assignments, discussions
4	2Theoretical 3Practical	<b>Theoretical</b> B3,b4;The student gets to know the most important types Related fungi With dairy products <b>Practical</b> B3;Familiar with detection methods coliform bacteria	<b>Theoretical</b> For important microbes in Milk and its products - molds - Yeasts - viruses <b>Practical</b> Standard method of detection coli bacteria	<b>THEORETICAL</b> audio methods, Writing on the Board Direct Dialogue style <b>PRACTICAL</b> Assigning tasks and reports	Shortexams, assignments, discussions
5	2Theoretical 3Practical	<b>Theoretical</b> C2;The student gets to know the most important types Viruses and their ways of spreading <b>Practical</b> D1;Explains ways to	<b>Theoretical</b> Important microbes in Milk and its products - molds - Yeasts - Viruses <b>Practical</b> IMVC tests	<b>THEORETICAL</b> audio methods, Writing on the Board Direct Dialogue style <b>PRACTICAL</b> Assigning tasks	Shortexams, assignments, discussions

		differentiate between The two types of depend bacteria For colon group		and reports	
6	2Theoretical 3Practical	<b>Theoretical</b> A1;The student masters methods of eliminating Contamination of milk w microorganisms <b>Practical</b> B4;Explains methods counting milk bacteria	<b>Theoretical</b> Ways to control Milk microbes <b>Practical</b> Methods for counting milk bacteria	<b>THEORETICAL</b> audio methods, Writing on the Board Direct Dialogue style <b>PRACTICAL</b> Assigning tasks and reports	Shortexams, assignments, discussions
7	2Theoretical 3Practical	<b>Theoretical</b> A2;The student is familiar with natural inhibitors And produced by living things Microscopic <b>Practical</b> B5;Explains the sour of milk contamination	<b>Theoretical</b> Natural inhibitors in the milk <b>Practical</b> Sources of raw milk contamination	<b>THEORETICAL</b> audio methods, Writing on the Board Direct Dialogue style <b>PRACTICAL</b> Assigning tasks and reports	Shortexams, assignments, discussions
8	2Theoretical 3Practical	<b>Theoretical</b> C3;Proficient in detecting microbes in the milk <b>Practical</b> C2;Scientific visit (in which he learns about the corresponding laboratories in sciences)	<b>Theoretical</b> Market milk microbiology <b>Practical</b> Scientific visit	<b>THEORETICAL</b> audio methods, Writing on the Board Direct Dialogue style <b>PRACTICAL</b> Assigning tasks and reports	Shortexams, assignments, discussions
9	2Theoretical 3Practical	<b>Theoretical</b> A3;The student is famil with everything related to Prefixes <b>Practical</b> C3;The milk is judged t be free of disease-caus microbes Mastitis	<b>Theoretical</b> Microbiology of prim <b>Practical</b> Tests of milk produced from infec livestock Udder	<b>THEORETICAL</b> audio methods, Writing on the Board Direct Dialogue style <b>PRACTICAL</b> Assigning tasks and reports	Shortexams, assignments, discussions
10	2Theoretical 3Practical	<b>Theoretical</b> A4;The student is profici in microbiology Fermented and therapeu dairy products <b>Practical</b> C4;Proficient in laborator examination For raw milk pasteurized milk	<b>Theoretical</b> Dairy microbiology Fermented and therapeutic <b>Practical</b> Raw milk tests And pasteurized milk	<b>THEORETICAL</b> audio methods, Writing on the Board Direct Dialogue style <b>PRACTICAL</b> Assigning tasks and reports	Shortexams, assignments, discussions

11	2Theoretical 3Practical	<b>Theoretical</b> A5;The student is familiar with the most important microbes Related to cream and butter <b>Practical</b> B6;Proficient in microbial examination of butter and cream	<b>Theoretical</b> Microbiology of cream and butter <b>Practical</b> Microbial examination of butter And cream	<b>THEORETICAL</b> audio methods, Writing on the Board Direct Dialogue style <b>PRACTICAL</b> Assigning tasks and reports	Shortexams, assignments, discussions
12	2Theoretical 3Practical	<b>Theoretical</b> B5;The student is familiar with the most important microbes Related to cheese <b>Practical</b> B7;Shows the steps of cheese manufacturing And the types of damage to which it is exposed	<b>Theoretical</b> Cheese microbiology <b>Practical</b> Microbial examination of cheese	<b>THEORETICAL</b> audio methods, Writing on the Board Direct Dialogue style <b>PRACTICAL</b> Assigning tasks and reports	Shortexams, assignments, discussions
13	2Theoretical 3Practical	<b>Theoretical</b> D1;The student is familiar with the most important microbes Related to powdered milk And the condenser <b>Practical</b> B8;Explains what an examination is Microbiology of powdered milk	<b>Theoretical</b> Milk microbiology Desiccant dryer and condenser <b>Practical</b> Microbial examination of milk Dry	<b>THEORETICAL</b> audio methods, Writing on the Board Direct Dialogue style <b>PRACTICAL</b> Assigning tasks and reports	Shortexams, assignments, discussions
14	2Theoretical 3Practical	<b>Theoretical</b> E1;The student is governed by microbiology Milk ice cream <b>Practical</b> E1;Proficient in laboratory tests For microbial examination of ice cream	<b>Theoretical</b> Ice cream microbiology Lactobacillus <b>Practical</b> Microbial examination of ice cream	<b>THEORETICAL</b> audio methods, Writing on the Board Direct Dialogue style <b>PRACTICAL</b> Assigning tasks and reports	Shortexams, assignments, discussions
15	2Theoretical 3Practical	<b>Theoretical</b> E2;The student learns and discusses what he has studied During the course <b>Practical</b> D2;Reviews course Content	<b>Theoretical</b> Curriculum review <b>Practical</b> Reference and discussion	<b>THEORETICAL</b> audio methods, Writing on the Board Direct Dialogue style <b>PRACTICAL</b> 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)	.....
Main references (sources)	Dairy microbiology, Robinson Principles of microbiology / Dr. Fayez Al-Ani And Dr. Amin Suleiman Badawi
Recommended books and references (scientific journals, reports...)	.....
Electronic References, Websites	Internet sites for specialized topics Search Google

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