Course Description Form

1. Course Name:

Principles of Dairy

2. Course Code:

PRPD227

3. Semester / Year:

First semester (fall) / 2024-2025

4. Description Preparation Date:

1/2/2025

5. Available Attendance Forms:

Presence + Onlie

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: M.D. Saif Ali Mohammed
MSc waeadallah hashim

8. Course Objectives

Theoretical	Practical
- • The learner should be able to define the concept of milk and its sensory, chemical and physical characteristics • Choosing the suitability of factors affecting milk preservation and methods of controlling milk contamination • Differentiate between different systems for preserving milk samples before manufacturing • Distinguishing between types of milk, whether cow or buffalo • Familiarity with the information the food engineer needs about the components of milk	- Enabling the student to become familiar with most important laboratory methods for detect spoilage of milk and practical experiments diagnosing types of milk.

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 - Presentations of examples of food spoilage due to molds and yeasts - He is assigned to prepare a report entitled from his own diligence and prepare it for discussion with the students

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2Theoretical 3Practical	**THEORETICAL** B1: The student evaluates dairy and the positive and negative relationship with the composition of dairy products **PRACTICAL**: C5: Checks the method of receiving the milk	**THEORETICAL** Milk Definitions - Factors Affecting milk composition practical : Sampling methods	**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 learns to study and identify all the properties of milk **PRACTICAL** : B6: Detects sensory tests of milk	**THEORETICAL** Physical properties of milk practical : Sensory tests and milk judging	**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 learns about examining the chemical composition of fat, lactose, and water **PRACTICAL** : B7: Measures the percentage of fat in milk	**THEORETICAL** Water-fat-lactose practical : Estimating the percentage of fat in milk	**THEORETICAL** audio methods, Writing on the board Direct dialogue style **PRACTICAL** Assigning tasks and reports	Shortexams, assignments, discussions
4	2Theoretical 3Practical	**THEORETICAL** A1: The student examines the laboratory analysis and estimation of types of milk proteins **PRACTICAL** : C6: Discovers methods of milk adulteration	**THEORETICAL** Protein estimation practical : Milk adulteration and methods for detecting it	**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 analyzes, estimates and	**theoretical** Enzymes - salts Mineral - vitamins practical :	**THEORETICAL** audio methods, Writing on the board	Shortexams, assignments, discussions

		studies the chemical composition of milk practical : C7: Tests the level of contamination in milk and methods for detecting contamination	Bacteriological examinations of milk	Direct dialogue style **PRACTICAL** Assigning tasks and reports	
6	2Theoretical 3Practical	THEORETICAL C3: The student judges the detection of contaminants in milk and milk products practical : B8: Try different types of acidity measurements in milk	**THEORETICAL** Microbiology in the milk practical : Estimation of milk acidity	**THEORETICAL** audio methods, Writing on the board Direct dialogue style **PRACTICAL** Assigning tasks and reports	Shortexams, assignments, discussions
7	2Theoretical 3Practical	THEORETICAL C4: The student studies and reviews infectious diseases and determines their causes practical : B9: Explains the causes of mastitis	**THEORETICAL** Transmitted diseases Milk road practical : Detection of milk taken from cattle infected with mastitis	**THEORETICAL** audio methods, Writing on the board Direct dialogue style **PRACTICAL** Assigning tasks and reports	Shortexams, assignments, discussions
8	2Theoretical 3Practical	THEORETICAL A2: The student seel to use mathematical and mathematical equations to adjust milk fat **PRACTICAL** : B10: It continues to find out which substances increase the stability of milk	**THEORETICAL** Adjusting the fat percentage in Milk (Pearson box) practical : Milk stability tests	**THEORETICAL** audio methods, Writing on the board Direct dialogue style **PRACTICAL** Assigning tasks and reports	Shortexams, assignments, discussions
9	2Theoretical 3Practical	THEORETICAL B3: The student judg the work on determining the rou for receiving and distributing milk	**THEORETICAL** Prepare milk in Farm and milk receiving practical : Milk fermentation	**THEORETICAL** audio methods, Writing on the board Direct dialogue style	Shortexams, assignments, discussions

		PRACTICAL : C8: Discovers how to make yogurt	industry	**PRACTICAL** Assigning tasks and reports	
10	2Theoretical 3Practical	THEORETICAL A3: The student experiences the use milk separator devic and modern methoc for separating milk **PRACTICAL:** B11: Examines the types of curdiness of milk	**THEORETICAL** Milk separator and industry Cream practical : Cheese making	**THEORETICAL** audio methods, Writing on the board Direct dialogue style **PRACTICAL** Assigning tasks and reports	Shortexams, assignments, discussions
11	2Theoretical 3Practical	THEORETICAL B4: The student experiments with using methods of pasteurizing and sterilizing milk and preserving it for the longest period **PRACTICAL:** B12: Explains methods of making cream	**THEORETICAL** Thermal transactions For milk practical : Cream industry	**THEORETICAL** audio methods, Writing on the board Direct dialogue style **PRACTICAL** Assigning tasks and reports	Shortexams, assignments, discussions
12	2Theoretical 3Practical	THEORETICAL E1: The student produces cheese, yogurt, and enriched and dried milk **PRACTICAL:** C10: Discovers how to make butter	**THEORETICAL** Cheese making And fermented milk practical : Butter industry	**THEORETICAL** audio methods, Writing on the board Direct dialogue style **PRACTICAL** Assigning tasks and reports	Shortexams, assignments, discussions
13	2Theoretical 3Practical	THEORETICAL A4: The student lead discussion groups related to milk safet and ways to prevent **PRACTICAL:** B13: Identify the best way to calculate ice cream mixture	**THEORETICAL** Report and discuss practical : Calculations for making milk ice cream mixes	**THEORETICAL** audio methods, Writing on the board Direct dialogue style **PRACTICAL** Assigning tasks and reports	Shortexams, assignments, discussions
14	2Theoretical 3Practical	THEORETICAL B5: The student identifies health risk their impact on hum health, and the impa of negligence on pul health	**THEORETICAL** A field visit to a dairy factory and submitting a report on the microorganisms common in milk	**THEORETICAL** audio methods, Writing on the board Direct dialogue style **PRACTICAL**	Shortexams, assignments, discussions

		PRACTICAL : C11: Testing the manufacture of milk ice	contamination practical : Manufacture of milk ice cream	Assigning tasks and reports	
15	2Theoretical 3Practical	THEORETICAL e1 The student A5: The student experiences the types of work steps in dairy factories **PRACTICAL:** B14: Experiment with making water ice	**THEORETICAL** A field visit to a food factory and submitting a report on microorganisms common in food contamination practical : Water ice industry	**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)	Book of principles of dairy science
Main references (sources)	
Recommended books and references (scientific journals, reports...)	Dairy products book 2007
Electronic References, Websites	The World Health Organization and the Food and Drug Administration American

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Head of Scientific council : Prof. Dr. Kais Nazem Ghazal

Head of Department : Prof. Dr. Zuwaid Fathi Abd

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