

Course Description Form

1. Course Name:	
Food microbiology	
2. Course Code:	
FOMI366	
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. Tariq Zaid Ibrahim and MSc. Enas Mounir Abdel Majeed	
8. Course Objectives	
Theoretical <ul style="list-style-type: none"> - Enabling the student to understand and comprehend what is related to the biosynthesis of microscopic foods and their relationship to the food industry and food preservation. - Enabling the student to know the most important methods of food preservation and means of protection - Enabling the student to become familiar with the most important sources of food contamination - Empowering the student with the ability to detect different types of food spoilage - The student can judge the types of foods and their readiness to spoil and how quickly they spoil 	Practical <ul style="list-style-type: none"> - Enabling the student to become familiar with the most important laboratory methods in detecting microscopic food organisms and practical experiments to diagnose contamination in various foods.
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 - 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 explains the concept of microorganisms and their positive and negative relationship with food products PRACTICAL: b6The student examines different samples of water	THEORETICAL Food microbiology: its definition, aspects, and the importance of its study for food science specialists practical : Microbial examination of water	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 explains the most important sources of food contamination PRACTICAL : b7The student discovers which water samples are contaminated with feces	THEORETICAL Sources of food contamination practical : Microbial examination of water	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 is familiar with the most important factors affecting food contamination and compares types of foods with different compositions and their susceptibility to contamination PRACTICAL : c4The student determines which water samples are more polluted	THEORETICAL Factors affecting food contamination (natural and other sources) practical : Microbial examination of water	THEORETICAL audio methods, Writing on the board Direct dialogue style PRACTICAL Assigning tasks and reports	Shortexams, assignments, discussions
4	2Theoretical 3Practical	THEORETICAL b3The student judges the extent	THEORETICAL Controlling food contamination	THEORETICAL audio methods, Writing on the	Shortexams, assignments, discussions

		to which food products are subject to spoilage or not PRACTICAL : b8 The student measures which types of pasteurization are most suitable for food preservation	(food protection) practical : Estimating the efficiency of pasteurization in processed foods	board Direct dialogue style PRACTICAL Assigning tasks and reports	
5	2Theoretical 3Practical	THEORETICAL b4The student masters methods of protecting food from contamination practical : b8 The student measures which types of pasteurization are most suitable for food preservation	theoretical Protecting food by physical methods (irradiation - use of high temperature - cooling and freezing) practical : Estimating the efficiency of pasteurization in processed foods	THEORETICAL audio methods, Writing on the board Direct dialogue style PRACTICAL Assigning tasks and reports	Shortexams, assignments, discussions
6	2Theoretical 3Practical	THEORETICAL c2 The student learns about the most important microorganisms common in foods (fungi (yeasts and molds)) practical : c5 The student distinguishes methods for isolating types of bacterial spores contaminated with sugary substances	THEORETICAL Microorganisms related to food (fungi) practical : Microbial examination of grains, flour and sugary substances	THEORETICAL audio methods, Writing on the board Direct dialogue style PRACTICAL Assigning tasks and reports	Shortexams, assignments, discussions
7	2Theoretical 3Practical	THEORETICAL a1 The student learns about the most important microorganisms common in foods (bacteria, viruses, and protozoa) practical : c5 The student	THEORETICAL Microorganisms related to food (bacteria and viruses) practical : Microbial examination of grains, flour and sugary substances	THEORETICAL audio methods, Writing on the board Direct dialogue style PRACTICAL Assigning tasks and reports	Shortexams, assignments, discussions

		identifies methods for isolating types of bacterial spores contaminated with sugary substances			
8	2Theoretical 3Practical	<p>THEORETICAL a2 The student explains the most important microorganisms and their relationship to grains, flour, and their products</p> <p>PRACTICAL : b13 The student reveals the types of pollutants and their quantities in flour and grains</p>	<p>THEORETICAL Microbiology of grains, flour, its products, and sugary substances</p> <p>practical : Microbial examination of grains, flour and sugary substances</p>	<p>THEORETICAL audio methods, Writing on the board Direct dialogue style</p> <p>PRACTICAL Assigning tasks and reports</p>	Shortexams, assignments, discussions
9	2Theoretical 3Practical	<p>THEORETICAL c3 The student becomes familiar with the most important microorganisms contaminating meat, eggs, and fish</p> <p>PRACTICAL : c6 The student distinguishes which type of meat is most susceptible to contamination</p>	<p>THEORETICAL Microbial spoilage of meat, eggs and fish</p> <p>practical : Microbial examination of meat</p>	<p>THEORETICAL audio methods, Writing on the board Direct dialogue style</p> <p>PRACTICAL Assigning tasks and reports</p>	Shortexams, assignments, discussions
10	2Theoretical 3Practical	<p>THEORETICAL a3 The student learns about the most important microorganisms that cause spoilage of vegetables and fruits</p> <p>PRACTICAL: b9 The student discovers the types and quantities of pollution that affect fruits and</p>	<p>THEORETICAL Microbial spoilage of fruits and vegetables</p> <p>practical : Microbial examination of spices, fruits and vegetables</p>	<p>THEORETICAL audio methods, Writing on the board Direct dialogue style</p> <p>PRACTICAL Assigning tasks and reports</p>	Shortexams, assignments, discussions

		vegetables			
11	2Theoretical 3Practical	THEORETICAL a4 The student learns about the chemical and physical defects of canned goods and the ways they spoil PRACTICAL: b10 The student tests types of canned food microbially	THEORETICAL Canned food spoilage practical : Microbial examination of canned goods	THEORETICAL audio methods, Writing on the board Direct dialogue style PRACTICAL Assigning tasks and reports	Shortexams, assignments, discussions
12	2Theoretical 3Practical	THEORETICAL a5 The student judges the foods related to the growth of food poisoning causes and the methods of transmission of microorganisms to the consumer PRACTICAL: b11 The student experiments with different types of media for isolating pathogenic bacteria that cause food poisoning	THEORETICAL Food poisoning practical : Isolating some types of pathogenic bacteria that cause poisoning	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 leads discussion groups related to food safety and ways to prevent it PRACTICAL: b11 The student experiments with different types of media for isolating pathogenic bacteria that cause food poisoning	THEORETICAL Report and discuss practical : Isolating some types of pathogenic bacteria that cause poisoning	THEORETICAL audio methods, Writing on the board Direct dialogue style PRACTICAL Assigning tasks and reports	Shortexams, assignments, discussions
14	2Theoretical 3Practical	THEORETICAL e1 The student identifies health risks, their impact on human health,	THEORETICAL A field visit to a food factory and submitting a report on	THEORETICAL audio methods, Writing on the board Direct dialogue	Shortexams, assignments, discussions

		and the impact of negligence on public health PRACTICAL : b12 The student examines various samples of juices microbially to determine their suitability for consumption	microorganisms common in food contamination practical : Microbial examination of juices	style PRACTICAL Assigning tasks and reports	
15	2Theoretical 3Practical	THEORETICAL e1 The student identifies health risks, their impact on human health, and the impact of negligence on public health PRACTICAL: e2The student determines the validity of different food samples	THEORETICAL A field visit to a food factory and submitting a report on microorganisms common in food contamination practical : Solve the problem	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)	Food Microbiology
Main references (sources)	
Recommended books and references (scientific journals, reports...)	Food Microbiology 2008 by Adam and Mos
Electronic References, Websites	WHO , FDA



Instructor of theoritical part

Dr. Tariq Zaid Ibrahim

Instructor of practical part

Enas Moneer

Chairman of the scientific committee

Prof. Dr. Moafak mahmood ahmed

Head of the department of Food science

Prof. Dr. Sumaya khalaf badawi