


## Course Description Form

<b>1. Course Name:</b>	
Food microbiology	
<b>2. Course Code:</b>	
FOMI366	
<b>3. Semester / Year:</b>	
First semester (fall) / 2024-2025	
<b>4. Description Preparation Date:</b>	
1/9/2024	
<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. Tariq Zaid Ibrahim and MSc. Enas Mounir Abdel Majeed	
<b>8. Course Objectives</b>	
<b>Theoretical</b> <ul style="list-style-type: none"> <li>- 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.</li> <li>- Enabling the student to know the most important methods of food preservation and means of protection</li> <li>- Enabling the student to become familiar with the most important sources of food contamination</li> <li>- Empowering the student with the ability to detect different types of food spoilage</li> <li>- The student can judge the types of foods and their readiness to spoil and how quickly they spoil</li> </ul>	<b>Practical</b> <ul style="list-style-type: none"> <li>- 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.</li> </ul>
<b>9. Teaching and Learning Strategies</b>	
<b>Theoretical</b> <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> <div style="text-align: center; margin-top: 20px;">  </div>	<b>Practical</b> <ul style="list-style-type: none"> <li>Interactive lecture</li> <li>- Discussion, dialogue, brainstorming</li> <li>- Conducting laboratory experiments</li> <li>- Assigning reports</li> <li>- Conducting daily and monthly examinations</li> <li>- Presentations of examples of food spoilage due to molds and yeasts</li> <li>- He is assigned to prepare a report entitled from his own diligence and prepare it for discussion with the students</li> </ul>



## 10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2Theoretical 3Practical	<b>THEORETICAL</b> a1) Know the food microbiology types, sources of food contamination and behavior of microorganisms <b>PRACTICAL:</b> b1) Try different methods to estimate the number of microorganisms in foods	<b>THEORETICAL</b> Food microbiology: its definition, aspects, and the importance of its study for food science specialists practical : Microbial examination of water	<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> a1) Know the food microbiology types, sources of food contamination and behavior of microorganisms a2) Familiar with the most important methods of preserving and protecting food and appropriate sterilization methods, as well as, factors affecting the growth of microorganisms <b>PRACTICAL :</b> b1) Try different methods to estimate the number of microorganisms in foods	<b>THEORETICAL</b> Sources of food contamination  practical : Microbial examination of water	<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> a1) Know the food microbiology types, sources of food contamination and behavior of microorganisms a2) Familiar with the most important methods of preserving and protecting food and appropriate sterilization methods, as well as, factors affecting the growth of microorganisms <b>PRACTICAL :</b> b1) Try different methods to estimate the	<b>THEORETICAL</b> Factors affecting food contamination (natural and other sources) practical : Microbial examination of water	<b>THEORETICAL</b> audio methods, Writing on the board Direct dialogue style <b>PRACTICAL</b> Assigning tasks and reports	Shortexams, assignments, discussions





		number of microorganisms in foods			
4	2Theoretical 3Practical	<b>THEORETICAL</b> a1) Know the food microbiology types, sources of food contamination and behavior of microorganisms a2) Familiar with the most important methods of preserving and protecting food and appropriate sterilization methods, as well as, factors affecting the growth of microorganisms <b>PRACTICAL :</b> b1) Try different methods to estimate the number of microorganisms in foods	<b>THEORETICAL</b> Controlling food contamination (food protection) practical : Estimating the efficiency of pasteurization in processed foods	<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> a2) Familiar with the most important methods of preserving and protecting food and appropriate sterilization methods, as well as, factors affecting the growth of microorganisms practical : b1) Try different methods to estimate the number of microorganisms in foods	<b>theoretical</b> Protecting food by physical methods (irradiation - use of high temperature - cooling and freezing)  practical : Estimating the efficiency of pasteurization in processed foods	<b>THEORETICAL</b> audio methods, Writing on the board Direct dialogue style <b>PRACTICAL</b> Assigning tasks and reports	Shortexams, assignments, discussions
6	2Theoretical 3Practical	<b>THEORETICAL</b> a1) Know the food microbiology types, sources of food contamination and behavior of microorganisms practical : b1) Try different methods to estimate the number of microorganisms in foods	<b>THEORETICAL</b> Microorganisms related to food (fungi) practical : Microbial examination of grains, flour and sugary substances	<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> a1) Know the food microbiology types, sources of food contamination and behavior of	<b>THEORETICAL</b> Microorganisms related to food (bacteria and viruses)	<b>THEORETICAL</b> audio methods, Writing on the board Direct dialogue	Shortexams, assignments, discussions






		microorganisms practical : b1) Try different methods to estimate the number of microorganisms in foods	practical : Microbial examination of grains, flour and sugary substances	style <b>PRACTICAL</b> Assigning tasks and reports	
8	2Theoretical 3Practical	<b>THEORETICAL</b> a1) Know the food microbiology types, source of food contamination and behavior of microorganisms <b>PRACTICAL :</b> b1) Try different methods to estimate the number of microorganisms in foods	<b>THEORETICAL</b> Microbiology of grains, flour, its products, and sugary substances practical : Microbial examination of grains, flour and sugary substances	<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> a1) Know the food microbiology types, source of food contamination and behavior of microorganisms <b>PRACTICAL :</b> b1) Try different methods to estimate the number of microorganisms in foods	<b>THEORETICAL</b> Microbial spoilage of meat, eggs and fish practical : Microbial examination of meat	<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> a1) Know the food microbiology types, source of food contamination and behavior of microorganisms <b>PRACTICAL:</b> b1) Try different methods to estimate the number of microorganisms in foods	<b>THEORETICAL</b> Microbial spoilage of fruits and vegetables practical : Microbial examination of spices, fruits and vegetables	<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> a1) Know the food microbiology types, source of food contamination and behavior of microorganisms c1) Detect the types of pathogenic microorganisms that cause food poisoning <b>PRACTICAL:</b> b1) Try different methods to estimate the number of microorganisms in foods	<b>THEORETICAL</b> Canned food spoilage practical : Microbial examination of canned goods	<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> a1) Know the food microbiology types, source of food contamination and behavior of microorganisms	<b>THEORETICAL</b> Food poisoning practical :	<b>THEORETICAL</b> audio methods, Writing on the board	Shortexams, assignments, discussions





		c1) Detect the types of pathogenic microorganism that cause food poisoning <b>PRACTICAL:</b> c1) Detect the types of pathogenic microorganisms that cause food poisoning	Isolating some types of pathogenic bacteria that cause poisoning	Direct dialogue style <b>PRACTICAL</b> Assigning tasks and reports	
13	2Theoretical 3Practical	<b>THEORETICAL</b> a1) Know the food microbiology types, source of food contamination and behavior of microorganism a2) Familiar with the most important methods of preserving and protecting food and appropriate sterilization methods, as well as, factors affecting the growth of microorganism <b>PRACTICAL:</b> c1) Detect the types of pathogenic microorganisms that cause food poisoning	<b>THEORETICAL</b> Report and discuss  practical : Isolating some types of pathogenic bacteria that cause poisoning	<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> a1) Know the food microbiology types, source of food contamination and behavior of microorganism <b>PRACTICAL :</b> b1) Try different methods to estimate the number of microorganisms in foods	<b>THEORETICAL</b> A field visit to a food factory and submitting a report on microorganisms common in food contamination practical : Microbial examination of juices	<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> c1) Detect the types of pathogenic microorganism that cause food poisoning <b>PRACTICAL:</b> c1) Detect the types of pathogenic microorganisms that cause food poisoning	<b>THEORETICAL</b> A field visit to a food factory and submitting a report on microorganisms common in food contamination practical : Solve the problem	<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)	Food Microbiology
Main references (sources)	
Recommended books and references (scientific journals, reports...)	Food Microbiology 2008 by Adam and Mos
Electronic References, Websites	WHO , FDA

Course administrator's name : Dr. Tariq Zaid Ibrahim

and MSc. Enas Moneer

Head of Scientific council : Assi. Prof. Dr. Taha M. Taqi

Head of Department : Prof. Dr. Sumaya Khalaf Badawy

