Ministry of Higher Education and Scientific Research
Scientific Supervision and Scientific Evaluation Apparatus
Directorate of Quality Assurance and Academic Accreditation
Accreditation Department

Academic Program and Course Description Guide

2026-2025

Introduction:

The educational program is a well-planned set of courses that include procedures and experiences arranged in the form of an academic syllabus. Its main goal is to improve and build graduates' skills so they are ready for the job market. The program is reviewed and evaluated every year through internal or external audit procedures and programs like the External Examiner Program.

The academic program description is a short summary of the main features of the program and its courses. It shows what skills students are working to develop based on the program's goals. This description is very important because it is the main part of getting the program accredited, and it is written by the teaching staff together under the supervision of scientific committees in the scientific departments.

This guide, in its second version, includes a description of the academic program after updating the subjects and paragraphs of the previous guide in light of the updates and developments of the educational system in Iraq, which included the description of the academic program in its traditional form (annual, quarterly), as well as the adoption of the academic program description circulated according to the letter of the Department of Studies T 3/2906 on 3/5/2023 regarding the programs that adopt the Bologna Process as the basis for their work.

In this regard, we can only emphasize the importance of writing an academic programs and course description to ensure the proper functioning of the educational process.

Concepts and terminology:

Academic Program Description: The academic program description provides a brief summary of its vision, mission and objectives, including an accurate description of the targeted learning outcomes according to specific learning strategies.

Course Description: Provides a brief summary of the most important characteristics of the course and the learning outcomes expected of the students to achieve, proving whether they have made the most of the available learning opportunities. It is derived from the program description.

Program Vision: An ambitious picture for the future of the academic program to be sophisticated, inspiring, stimulating, realistic and applicable.

Program Mission: Briefly outlines the objectives and activities necessary to achieve them and defines the program's development paths and directions.

Program Objectives: They are statements that describe what the academic program intends to achieve within a specific period of time and are measurable and observable.

Curriculum Structure: All courses / subjects included in the academic program according to the approved learning system (quarterly, annual, Bologna Process) whether it is a requirement (ministry, university, college and scientific department) with the number of credit hours.

Learning Outcomes: A compatible set of knowledge, skills and values acquired by students after the successful completion of the academic program and must determine the learning outcomes of each course in a way that achieves the objectives of the program.

Teaching and learning strategies: They are the strategies used by the faculty members to develop students' teaching and learning, and they are plans that are followed to reach the learning goals. They describe all classroom and extra-curricular activities to achieve the learning outcomes of the program.

Academic Program Description Form

University Name **University Of Basrah**
Faculty / Institute **College Of Agriculture**
Scientific Department **Department of food science**
Academic or Professional Program Name **food science**
Final Certificate Name **Bachelors in food science**
Academic System **Semester System**
Description Preparation Date 10 June 2026
File Completion Date 21 June 2026

Head of Department Name
Prof Dr. Sinan Jawdat Al- Faraj
Date 21 June 2026

Scientific Associate Name
Prof Dr. Sadiq Jabar Muhsin
21 June 2025

Signature
This File Is Checked By Prof Dr. Aqeel Abbood Suhaim
Department of Quality Assurance and University Performance
Director of The Department Of Quality Assurance and University Performance
Date 21 June 2026

Prof Dr Sarmad Ghazi Mohammed
Approval of The Dean

Program Message .2

distinguished agricultural personnel , conduct research and studies, adopt modern disseminate technology in advanced agricultural fields, with the knowledge, and utilize and aim of developing agricultural services and projects to serve the community

Program Objectives .3

Academic Program Objectives
1- To qualify specialists in the fields of food science and human nutrition with the quality academic -knowledge and skills appropriate to the labor market, by providing high programs at the undergraduate and postgraduate levels.
2- Developing knowledge in the fields of food science and human nutrition through conducting creative applied research
3- Transferring knowledge through authoring and translating books in the fields of food science and human nutrition
4- Spreading knowledge in the fields of food science and human nutrition.
5- Raising awareness in the community about the role of human nutrition in supporting health and preventing disease, and the importance of getting rid of incorrect dietary practices.
6- Community service and providing technical advice to food manufacturers and nutrition supervisors.
7- Developing continuous training programs for graduates to keep them informed of the

4. Program accreditation
Is the program accredited? And by which body?
Seeking accreditation

5. Other external influences
Is there a sponsor for the program?
are available for support Opportunities

6. Program Structure

Program structure	Number of courses	Study unit	Percentage	*comments
Institutional requirements	8	16	%9	
College requirements	16	49.5	%30	
Department requirements	33	98.5	%61	
Summer training				
Other				

*** The notes may include whether the course is core or elective.**

7. Program Description

Credit Hours		Course name	Course code	Year / Level
practical	theoretical			
3	2	General	Z 502	
3	2	Principles of	B 103	
-	2	Principles of	Z 511	/ First semester First year
-	2	mathematics	Z 501	
-	2	human rights	Z 513	
-	1	language English	Z 504	
	-	engineering	Z 516	
3	2	Quantitative Chemistry	G 102	
3	2	Principles of	Th 101	
3	2	Principles of food	G 104	
3	2	Principles of	G 106	First / Second semester year
3	2	count	Z 517	
-	1	English Language	Z 524	
2	1	Computer	Z 505	
3	2	Principles of Soil	T 201	
	2	Organic Chemistry	Z 508	
3	2	Principles of	Z 519	
3	2	industrial crops	M 203	
3	2	Pan Principles of	G 201	/ First semester Second year
3	2	Design and	Z 518	
3	1	Computer	Z 506	
2	2	Principles of	Z 512	
3	2	Physical	G 202	
3	2	biochemistry	Z 510	/ Second semester Second year
3	2	warehouse pests	and 407	

3	2	Food health	G 204	
-	2	Food Processing	G 206	
3	2	Food processing	G 208	
-	1	**Freedom and democracy**	Z 514	
3	2	Food Chemistry	G 301	/ **First semester Third year**
3	2	grain	G 303	
3	2	Molecular	G 305	
3	2	Microscopic food	G 307	
-	2	Principles of	G 309	
3	2	Date processing	G 311	
-	2	Agricultural	G 313	
3	2	Dairy chemistry	G 302	/ **Second semester Third year**
3	2	Bread and	G 304	
3	2	genetic	306 G	
3	2	Microscopic dairy	G 308	
3	2	Metabolic	G 310	
3	2	Liquid dairy	G 312	
2	1	Computer Applications 3	Z 507	
3	2	Food	G 401	/ **First semester Fourth year**
3	2	production Dairy	G 403	
3	2	Food analysis	G 405	
3	2	Life Technology	G 407	
3	2	Applications in	G 409	
3	-	Graduation	Z 522	
-	1	seminars	Z 523	
3	2	Food manufacturing 2	G 402	/ Second semester Fourth year
3	2	production Dairy 2	G 404	

3	2	Life Technology	G 406	
3	2	Quality control	G 408	
3	2	Meat processing	G 410	
3	-	Graduation	Z 526	

Expected learning outcomes of the program .8	
Knowledge	
Statement of learning outcomes Lectures seminars discussion panels and	Learning Outcomes 1 .Cognitive objectives -A Knowledge of -A1 - A1 theories related to food manufacturing and microbiological aspects Understanding food -A2 analysis methods Knowledge of scientific -A3 solving skills-problem Enabling the student to -A4 understand the discourse on hnology food science and tec and equipping food
Skills	
Learning Outcomes Statement 2 Other skills related to employability and personal .(development Using computers and display screens to clarify -D1 dent's lectures for students in order to increase the stu mental comprehension Instilling confidence in students that they are -D2 capable of applying the information in practical life	Learning Outcomes 2 Fish and Meat Technology -B1 Grain and Date –B2 Technology Dairy Technology and –B3 Food Engineering Food Microbiology-B4

Learning Outcomes Statement 3 Teaching students how to engage in objective thinking and analysis. he course fundamentals and Providing students with t - additional topics Posing intellectual questions that require presenting - different viewpoints as homework assignments	Learning Outcomes 3 Teaching students how to engage in objective thinking and analysis. the Providing students with - course fundamentals and additional topics Posing intellectual questions - Dividing students into groups for practical lessons
Values	
Learning Outcomes Statement 4 Term exams Monthly tests Homework Graduation research discussion tests	Learning Outcomes 4 Practical training for each course Developing creative students and thinking in in individuals Knowing the new - developments that occur and affect the course material
Statement 5 Learning Outcomes Physical exercises in some lessons Written and oral exams Staying informed about current events -	Learning Outcomes 5

Teaching and learning strategies .9
Strategies and methods of teaching and learning adopted in the implementation of the program in general. Using modern teaching methods and explanatory films, as well as involving students in the scientific lecture. * Reports on a topic related to the specialization. * Discussions within the hall.

Assessment Methods .10
.Implementing it in all stages of the program in general Physical exercises in some lessons - Written and oral exams Staying informed about current events - Practical training for each course Developing creative thinking in students and in individuals Knowing the new developments that occur and affect the course material -

Faculty .11						
Faculty members						
Faculty preparation		Special Requirements/Skills (If found)		Specialization		academic rank
lecturer	angel			private	general	
	16			✓		.Mr
	13			✓		assistant professor
	14			✓		Professor Doctor
	2			✓		Teacher (Master's)
	7				✓	Assistant teacher

Professional Development
Orienting new faculty members
time faculty -time and part-the process used to guide new, visiting, full Briefly describe .members at the institutional and departmental levels
Professional development of faculty members
development and professional academic Briefly describe the plan and arrangements for the of faculty members, including teaching and learning strategies, assessment of learning .outcomes, professional development, etc

Admission Criteria .12
Establishing the regulations related to enrollment in the college or institute, whether) (central admission or other mentioned Centralized admissions first and second semesters The system in the department is divided into- All students are exposed to the same material, and at the beginning of each semester, the

Key sources of information about the program .13
From the textbooks Help books and the internet The central library, the electronic library, and scientific journals

Program Development Plan .14

Program Skills Plan															
Learning outcomes required from the program															
Values				Skills				Knowledge				Essential or optional	Course Name	Course code	Year / Level
Q4	Part 3	Part 2	Part 1	B4	B3	B2	B1	A4	A3	A2	A1	essential	General Chemistry	Z 502	First/ 2024
	✔	✔	✔			✔			✔			essential	Principles of Horticulture	B 103	First /2024
✓	✔	✔	✔			✔			✔			essential	Principles of Agricultural Economics	Z 511	First /2024
	✔	✔	✔			✔			✔			essential	mathematics	Z 501	First /2024
✓	✔	✔	✔			✔			✔			essential	human rights	Z 513	First /2024
	✔	✔	✔			✔			✔			essential	English language	Z 504	First /2024
	✔	✔				✔			✔			essential	engineering drawing	Z 516	First /2024
	✔	✔	✔			✔			✔			essential	Quantitative Chemistry	G 102	First /2024
	✔	✔	✔			✔			✔			essential	Principles of Animal Production	101 Th	First /2024
	✔	✔	✔			✔			✔	✔	✔	essential	Principles of food industries	G 104	First /2024
✓	✔	✔	✔			✔			✔	✔	✔	essential	Principles of Engineering Workshops	G 106	First /2024

	✓	✓	✓			✓			✓			essential	count	Z 517	First /2024
	✓	✓				✓			✓			essential	English Language 2	Z 524	First /2024
✓	✓	✓				✓			✓			essential	Computer Applications 1	Z 505	First /2024
	✓	✓				✓			✓			essential	General Chemistry	Z 502	

Program Skills Plan

Learning outcomes required from the program															
Values				**Skills**				**Knowledge**				**Essential or optional**	**Course Name**	**Course code**	**Year / Level**
Q4	**Part 3**	**Part 2**	**Part 1**	**B4**	**B3**	**B2**	**B1**	**A4**	**A3**	**A2**	**A1**				**Second/2024**
		✓						✓	✓	✓		essential	Organic Chemistry	Z 508	**Second/2024**
✓		✓					✓	✓	✓	✓		essential	Principles of Microbiology	Z 519	Second/2024
		✓			✓			✓	✓	✓		essential	industrial crops	M 203	Second/2024
✓	✓	✓	✓			✓		✓	✓	✓	✓	essential	Principles of Pan	G 201	Second/2024
✓		✓						✓	✓	✓		essential	Design and analysis of	Z 518	Second/2024
		✓							✓	✓		essential	Computer Applications	Z 506	Second/2024
		✓						✓	✓	✓		essential	Principles of agricultural	Z 512	Second/2024

✓		✓		✓	✓	✓		✓	✓	✓		essential	Physical Chemistry	G 202	Second/2024
✓	✓	✓		✓	✓	✓		✓	✓	✓		essential	biochemistry	Z 510	Second/2024
		✓						✓	✓	✓		essential	warehouse pests	and 407	Second/2024
		✓		✓	✓	✓	✓	✓	✓	✓		essential	Food health	G 204	Second/2024
		✓					✓	✓	✓	✓		essential	Food Processing	G 206	Second/2024
✓		✓	✓	✓		✓	✓	✓	✓	✓	✓	essential	Food processing	G 208	Second/2024
		✓						✓	✓	✓		essential	Freedom and democracy	Z 514	Second/2024

Program Skills Plan

Learning outcomes required from the program															
Values				**Skills**				**Knowledge**				**Essential or optional**	**Course Name**	**Course code**	**Year / Level**
Q4	**Part 3**	**Part 2**	**Part 1**	**B4**	**B3**	**B2**	**B1**	**A4**	**A3**	**A2**	**A1**				**Third/ 2024**
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		essential	Food Chemistry	G 301	Third/2024
✓	✓	✓	✓		✓			✓	✓	✓		essential	grain manufacturing	G 303	Third/2024
✓	✓	✓				✓		✓	✓	✓		essential	Molecular biology	G 305	Third/2024
✓	✓	✓	✓			✓		✓	✓	✓		essential	Microscopic food revival	G 307	Third/2024

✓	✓	✓				✓		✓	✓	✓		essential	Principles of human	G 309	Third/2024
✓	✓	✓	✓		✓			✓	✓	✓	✓	essential	Date processing	G 311	Third/2024
		✓				✓		✓	✓	✓		essential	Agricultural marketing	G 313	Third/2024
✓	✓	✓	✓					✓	✓	✓		essential	Dairy chemistry	G 302	Third/2024
✓	✓	✓	✓		✓			✓	✓	✓		essential	Bread and pastries	G 304	Third/2024
✓	✓	✓						✓	✓	✓		essential	genetic engineering	G 306	Third/2024
✓		✓					✓	✓	✓	✓		essential	Microscopic dairy	G 308	Third/2024
✓		✓					✓	✓	✓	✓		essential	Metabolic pathways	G 310	Third/2024
✓	✓	✓	✓			✓		✓	✓	✓		essential	Liquid dairy products	G 312	Third/2024

Program Skills Plan

Learning outcomes required from the program															
Values				**Skills**				**Knowledge**				**Essential or optional**	**Course Name**	**Course code**	**Year / Level**
Q4	**Part 3**	**Part 2**	**Part 1**	**B4**	**B3**	**B2**	**B1**	**A4**	**A3**	**A2**	**A1**				**Fourth/ 2024**
✓	✓	✓	✓	✓	✓	✓		✓	✓	✓		essential	Food manufacturing	G 401	Fourth /2024
✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	essential	Dairy production 1	G 403	Fourth /2024

✓	✓	✓	✓	✓	✓	✓		✓	✓	✓		essential	Food analysis	G 405	Fourth /2024
✓	✓	✓					✓	✓	✓	✓		essential	Life Technology 1	G 407	Fourth /2024
✓	✓	✓						✓	✓	✓		essential	Applications in human	G 409	Fourth /2024
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		essential	Graduation research	Z 522	Fourth /2024
		✓						✓	✓	✓		essential	seminars	Z 523	Fourth /2024
✓	✓	✓	✓	✓	✓	✓		✓	✓	✓		essential	Food manufacturing	G 402	Fourth /2024
✓	✓	✓	✓	✓	✓	✓		✓	✓	✓		essential	Dairy production 2	G 404	Fourth /2024
		✓					✓	✓	✓	✓		essential	Life Technology 2	G 406	Fourth /2024
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		essential	Quality control	G 408	Fourth /2024
✓	✓	✓	✓	✓				✓	✓	✓		essential	Meat processing	G 410	Fourth /2024
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		essential	Graduation	Z 526	Fourth /2024

.Please check the boxes corresponding to the individual learning outcomes from the program that are being assessed •

stage Course description, third First and second courses

theoretical course Description of the

Course Name .1
Food Chemistry / Theory
Course Code .2
Term/Year .3
2026-First semester / 2025
Date this description was prepared .4
2025/01/02
Available forms of attendance .5
classrooms Attendance inside
Total study hours / Total number of units .6
Two hours per week (30 hours during the semester) / Three units
than one name is More (if applicable) Name of the course coordinator .7
anfal.abdul_nabi@uobasrah.edu.iq :Name: Dr. Anfal Alwan Abdul Nabi Email
Course Objectives .8

Course objectives	The study of theoretical food chemistry in the Food Science Department at the College of Agriculture aims to provide depth -students with the scientific foundations and in understanding of the chemical components of food and their m to address the various challenges in interactions, enabling the food processing, preservation, development, and safety. Key objectives include : • **Knowing the chemical composition of the main components** • **: Understanding vital and nutritional functions** • **e effect of these th And Study of chemical changes interactions**

Teaching and learning strategies .9

strategy	• . Theoretical lectures inside classrooms • . Presentations and video materials • . Group discussions • Learning based on problem-solving, inquiry, and brainstorming .

Course Structure .10

Evaluation Method	Learning method	Unit or topic name	Required learning outcomes	Hours	Week
Discussion and oral questions	• Theoretical lecture • presentation • group discussion	**his mother Introduction to**	General explanation of the subject of food chemistry	hours 2	the first
Discussion	• Theoretical lecture • presentation • group discussion	**Carbohydrates: Their Importance and Classification**	**The topic was explained in detail, covering all its aspects ✓**	hours 2	the second
Discussion and oral questions	• Theoretical lecture • presentation • group discussion • Video presentations	**Part two of carbohydrates**	**The topic was explained in detail, covering all its aspects ✓**	hours 2	the third

	Theoretical lecture • presentation • group discussion • Video presentations •	**Amino acids**	**in detail, The topic was explained .covering all its aspects**	hours 2	Fourth
nothing	nothing	**First monthly exam**	nothing	hours 2	Fifth
Discussion and oral questions	Theoretical lecture • presentation • group discussion • Video presentations •	**proteins**	**The topic was explained in detail, covering all its aspects. ✓**	hours 2	Sixth
	Theoretical lecture • presentation • group discussion • Video presentations •	**The remaining part of the proteins**	**The topic was explained in detail, .covering all its aspects**	hours 2	Seventh

Course Evaluation .11

The grade is distributed out of 100 according to the tasks assigned to the student, .such as daily preparation, daily, oral, monthly, written exams, reports, etc

resources Learning and teaching .12

There is no textbook	Required textbooks (methodology, if applicable)
Food Chemistry Book	(Main references (sources

Introduction to Food Chemistry Fennema, O. R., Damodaran, S., & Parkin, K. L. (2017). Introduction to food chemistry. In	Recommended supporting books and references (...scientific journals, reports)
	Electronic references, websites

Course description template

Course Name .1	
(Food Chemistry (Practical	
Course Code .2	
Term/Year .3	
2026-First semester / 2025	
Date this description was prepared .4	
2024/1/30	
Available forms of attendance .5	
Attendance inside the college laboratories	
Total study hours / Total number of units .6	
units: 3.5 hours / Number of 45	
.(Name of the course coordinator (if there is more than one, mention it .7	
Anfal Alwan Abdul Nabi :Name :Email anfal.abdul_nabi@uobasrah.edu.iq	
Course Objectives .8	
• **Chemical reactions and interactions that occur between the basic components of food and the study of methods for preparing standard solutions** • **It describes the science of food chemistry and its relationship and studies how to ,l and functional aspectsto nutritiona**	Course objectives
Teaching and learning strategies .9	
The lectures rely on explanation, delivery style, and the use of brainstorming. based education for -based and internet-Computer●	strategy
Course Structure .10	

Evaluation Method	**Learning method**	**Unit or topic name**	**Required learning**	**Hours**	**Week**
Assessment during practical laboratory experiments; evaluation of the student's professional	**Laboratory experiments**	**Solutions, viscosity, preparation of emulsions, peroxide number**	**Knowledge and understanding, brainstorming and mental skills, professional and scientific skills,**	**3 hours per week**	**15 weeks**

Course Evaluation .11	
The grade is distributed out of 100 according to the tasks assigned to the such as daily preparation, daily, oral, monthly, written exams, reports, ,student	
Learning and teaching resources .12	
nothing	Required textbooks (methodology, if applicable)
A practical biochemistry book, a food chemistry book	(Main references (sources
Introduction to Food Chemistry Fennema, O. R., Damodaran, S., & Parkin, K. L. (2017). Introduction to food chemistry. In *Fennema's food chemistry* (pp. 1-16). CRC Press.	Recommended supporting books and references (scientific
	onic references, websitesElectr

Third Stage – Department of Food Science

course theoretical Describe the

Course Name .1
Theoretical / Liquid milk products
Course Code .2
LIML324
2025-Second semester / 2024
Date this description was prepared .4
2025/01/02
Available forms of attendance .5
Attendance inside classrooms
Total study hours / Total number of units .6
Two hours per week (30 hours during the semester) / Two units (two units during the (semester
(than one name is mentioned More (applicable if) Name of the course coordinator .7
Prof. Dr. Haider Ibrahim Ali :Name — haider.ali@uobasrah.edu.iq :Email
Course Objectives .8

Course objectives	• Teaching students about the chemical composition of milk . • Teaching students the factors that affect the composition of milk. • Teaching students methods of preserving milk. • Teaching students how to handle milk. • Teaching students how to manufacture various dairy products such as butter, cream, cheese, and

strategies Teaching and learning .9	
strategy	• Theoretical lectures inside classrooms . • Presentations and video materials . • Group discussions . • Problem-Learning based on solving, inquiry, and brainstorming . • Project and based -learning based .

Course Structure .10

Evaluation Method	Learning method	Unit or topic name	Required learning outcomes	Hours	Week
Discussion and oral questions	Theoretical • lecture presentation • group discussion •	**General Introduction**	**By the end of this lesson, the student will be able to:** Explanation of the concept of milk composition. ✓ Defining the main objectives for receiving and handling milk. ✓ Distinguishing between the types of milk obtained from different types of ruminants and their areas of application. ✓	hours 2	the first
Report on the most suitable and locally used production units	Theoretical • lecture presentation • group discussion •	**Classification of production and cleaning solutions for units equipment**	**By the end of this lesson, the student will be able to:** Classification of production units according to system specifications. ✓ Distinguishing the main differences between unit types in terms of design, infrastructure, and operating requirements. ✓ Identifying the factors that influence the selection of the appropriate type of production unit (such as location, available ✓	hours 2	the second
Discussion and questions oral	Theoretical • lecture presentation • group discussion • Video • presentations	**Physical and chemical properties of milk**	**By the end of this lesson, the student will be able to:** Explaining the concept of physical properties. ✓ Addressing the effect of physical properties on the components of milk. ✓	hours 2	the third
Discussion and oral questions	Theoretical • lecture presentation • group discussion • Video • presentations	**heat treatments of milk**	**By the end of this lesson, the student will be able to:** Explaining the concept of heat treatment of milk. ✓ Classification of heat moduli. ✓ Determining the types of pasteurization temperatures. ✓ Determining the types of sterilization temperatures. ✓ The effect of pasteurization temperatures on the ✓	hours 2	Fourth
nothing	nothing	**First monthly exam**	nothing	hours 2	Fifth

Discussion and al questionsor	Theoretical • lecture presentation • group discussion • Video • presentations	**Milk sorting and cream production**	**By the end of this lesson, the :student will be able to** the Explanation of ✓ process of separating . milk fat milk sorting Learn about ✓ . methods Studying the conditions ✓ that affect the sorting . process Explanation of the ✓ components of the	hours 2	Sixth
Discussion and oral questions	Theoretical • lecture presentation • group discussion • Video • presentations	**Condensed milk and sweetened condensed milk**	**By the end of this lesson, the :student will be able to** Explanation of the ✓ of condensed concept . milk production How to make ✓ unsweetened . condensed milk How to make sweetened ✓ . condensed milk Mention the defects in ✓	hours 2	Seventh
Discussion and oral questions	Theoretical • lecture presentation • group discussion • Video • presentations	**production Yogurt**	**By the end of this lesson, the :student will be able to** Explanation of the ✓ . of yogurt concept the different Identifying ✓ . types of yogurt Identifying the ✓ ingredients that go . into making yogurt . How to make yogurt ✓ Disadvantages of yogurt ✓ . production Discussing the types of ✓ microorganisms used	hours 2	Eighth
Discussion and oral questions	Theoretical • lecture presentation • group discussion • Video • present ations	**cheese making**	**By the end of this lesson, the :student will be able to** Explanation of the ✓ of cheese concept . making the Identifying ✓ ingredients that go . into making cheese . How to make cheese ✓ Tools used in ✓ . manufacturing Disadvantages of cheese ✓ . making Studying the yield ratio ✓ . for cheese	hours 2	Ninth
nothing	nothing	**Second monthly exam**	**nothing**	hours 2	tenth
methods Report on of adulterating milk	Theoretical • lecture presentation • group discussion • Video • present ations	**milk adulteration**	**By the end of this lesson, the :student will be able to** Explanation of the ✓ of milk concept . adulteration the types of Identifying ✓ . milk adulteration Identifying methods of ✓ milk adulteration in . practice The benefit of knowing ✓ about milk	hours 2	eleventh

Discussion and oral questions	Theoretical • lecture presentation • group discussion • Video • presentations	**Milk homogenization**	**By the end of this lesson, the :student will be able to** Explanation of the concept of naturalization . ✓ Identifying the different types of naturalization methods . ✓ A study of the effect of homogenization on milk components. ✓ A study of the effect of certain factors on milk ✓	hours 2	twelfth
Discussion and oral questions	Theoretical • lecture presentation • group discussion • Video • presentations	**Milk transport and distribution**	**By the end of this lesson, the :student will be able to** Explain the importance of milk transportation. ✓ Identifying the methods of handling milk . ✓ Identifying the factors the milk that affect transport process . ✓ Implementing the correct procedures for transporting and handling milk . ✓	hours 2	thirteenth
Discussion and oral questions	Theoretical • lecture presentation • discussion group • Video • presentations	**breast milk**	**the end of this lesson, the By :student will be able to** the Explanation of benefits of breast milk . ✓ Identifying the different types of infant formula . ✓ Mention the methods for preparing the mixtures . ✓	hours 2	fourteenth
Discussion and oral questions	Theoretical • lecture presentation • group discussion • Answering • student inquiries	**products-milk by**	**By the end of this lesson, the :student will be able to** Explanation of the concept of by-products of milk . ✓ Identifying the types of by-products of milk. ✓	hours 2	fifteenth

Course Evaluation .11

The grade is distributed out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, written exams, reports, etc, monthly.

marks for attendance, participation, and answering oral questions 5

marks for reports and projects 5

marks for the first monthly exam 10

marks for the second monthly exam 10

marks for the final exam 30

Total 60 points

degrees for the practical part 40

Learning and teaching resources .12

(textbook (Liquid Milk The	Required textbooks (methodology, if (applicable
Dairy Science and Technology, Second Edition	(Main references (sources
Fundamentals of Dairy Chemistry Journal of Dairy Science	references Recommended supporting books and (...scientific journals, reports)
	Electronic references, websites

practical course Description of the

Course Name .1
Liquid milk products / practical
Course Code .2
LIML324
Term/Year .3
2025-Second semester / 2024
Date this description was prepared .4
2025/01/02
Available forms of attendance .5
Presence inside the laboratory
Total study hours / Total number of units .6
One and a half units (one and a half / (Three hours per week (45 hours during the semester (units during the semester
(than one name is mentioned More (if applicable) Name of the course coordinator .7
orass.yasseen@uobasrah.edu.iq :Email M. Auras Tariq Yassin :Name
Course Objectives .8

objectives Course	The student should become familiar -1 .the quality control processes for milk with should become familiar The student -2 and microbiological tests with the chemical . of milk The student should be able to identify -3 .milk defects and adulteration in

Teaching and learning strategies .9

strategy	the laboratory and scientific field visits to dairy lectures inside Practical • .factories . Presentations and video materials • . group discussions Conducting scientific experiments and • .and testing , solving, inquiry, brainstorming-Learning based on problem • based learning, project and based •

Course Structure .10

Evaluation Method	Learning method	Unit or topic name	Required learning outcomes	Hours	Week
Discussion and oral questions	Video presentations • Conducting practical experiments • discussions • Reports •	**processes for Quality control milk and its products Sensory examinations**	**By the end of this lesson, the student will be able to:** Understanding milk quality control processes ✓ Understanding how to conduct sensory tests on milk ✓	hours 3	the first
: Quick test Students conduct chemical and microbiological tests on samples of its milk and products. Visit to the College of Agriculture's Dairy Laboratory	lecture Practical • Conducting experiments • group discussion • Reports •	and microbiological tests	**By the end of this lesson, the student will be able to:** Learn how to conduct chemical tests on milk. ✓ Learn how to perform microbiological tests on milk. ✓	hours 3	the second

Students discussed the results of experiments conducted on milk samples and milk products.	Practical lecture • Conducting • practical experiments Reports •	**milk adulteration**	**By the end of this lesson, the student will be able to:** Identifying methods of ✓ milk adulteration Identifying milk taken ✓ from animals with mastitis	hours 3	the third
Students discussed the chemical composition of skimmed milk and compared it to raw milk.	The lecture is • practical Conducting a • practical experiment to produce skimmed milk	**Milk sorting processes**	**By the end of this lesson, the student will be able to:** Milk sorting ✓ Understanding the ✓ separator device and how to operate it	hours 3	Fourth
nothing	nothing	**First monthly exam**	nothing	hours 3	Fifth
Discussion with a quick quiz	Practical lecture • presentation •	Milk homogenization	**By the end of this lesson, the student will be able to:** Understanding the ✓ processes of homogenizing milk and its products The benefit of this ✓ process Identifying the ✓ homogenizer and its	hours 3	Sixth
Discussion between students and the course dairy instructor or plant management in the event of a field visit Or evaluating the models prepared by the students	A field visit to one of the dairy factories in the governorate Practical application through a visit to plant at the dairy the College of	heat treatments of milk	**By the end of this lesson, the student will be able to:** Identifying the heat ✓ parameters of milk What is pasteurization? ✓ Pasteurization Types of ✓ What is sterilization? ✓ Types of sterilization ✓ Device descriptions ✓ Pasteurization efficiency ✓	hours 3	Seventh

Conducting practical testing experiments on samples of milk fortified Reports	Practical lecture • presentation • Video • presentations A field visit to • one of the dairy factories in the governorate	**Liquid milk products manufacturing**	**By the end of this lesson, the student will be able to:** Learn about the ✓ flavored -chocolate milk industry Learning about the ✓ production and of manufacturing flavored milk-fruit Tests and examinations ✓	hours 3	Eighth
Conducting practical tests on cream of samples Reports	Practical lecture • Practical • production of cream in the laboratory	**Cream making**	**By the end of this lesson, the student will be able to:** Cream production and ✓ manufacturing Types of cream ✓ Its properties ✓ Its uses ✓ Tests and examinations ✓	hours 3	Ninth
nothing	nothing	**Second monthly exam**	nothing	hours 3	tenth
Conducting practical testing experiments on samples of milk sterilized Reports	Practical lecture • presentation • Video • presentations	**Production and manufacture of sterilized milk**	**By the end of this lesson, the student will be able to:** Understanding the ✓ production of sterilized milk Production methods ✓ Tests and examinations ✓	hours 3	eleventh
Conducting practical tests on samples of dried milk Reports	Practical lecture • presentation • Video • presentations	**Manufacturing and producing powdered milk**	**By the end of this lesson, the student will be able to:** Understanding the ✓ manufacturing and production of powdered milk Production methods ✓	hours 3	twelfth
Conducting practical tests on samples of milk condensed Reports	Practical lecture • presentation • Video • presentations	Concentrated milk production and manufacturing	**By the end of this lesson, the student will be able to:** Understanding the ✓ production and manufacturing of	hours 3	thirteenth
Discussion and oral questions Conducting practical testing experiments on -samples of Al Yokert Reports	Practical lecture • produced -Lab • yokert	**fermented milk**	**By the end of this lesson, the student will be able to:** Production and ✓ manufacture of fermented dairy products	hours 3	fourteenth

ngnothi	Practical lecture • presentation • Group • video discussion presentations Answering • student inquiries	**artificial intelligence** . **General review**	**By the end of this lesson, the :student will be able to** Explaining the concept of ✓ artificial intelligence and its applications in .dairy industry the Identifying smart ✓ technologies used in dairy plants Analyzing the role of ✓ artificial intelligence in improving	hours 3	fifteenth

Course Evaluation .11

The grade is distributed out of 100 according to the tasks assigned to the student, such as daily .preparation, daily, oral, monthly, written exams, reports, etc

marks for attendance, participation, and answering oral questions 5

points for reports 5

marks for the first monthly exam 5

marks for the second monthly exam 5

Total 20 points

marks for the theoretical part 30

Learning and teaching resources .12

(Practical/ textbook (Liquid Milk The	Required textbooks (methodology, if (applicable
Dairy Science and Technology, Second Edition	(Main references (sources
Fundamentals of Dairy Chemistry Journal of Dairy Science	Recommended supporting books and references (...scientific journals, reports)
	Electronic references, websites

theoretical course Description of the

Course Name .1	
Metabolic pathways / Theory	
Course Code .2	
Term/Year .3	
2025-Second semester / 2024	
was prepared Date this description .4	
2025/01/02	
Available forms of attendance .5	
Attendance inside classrooms	
Total study hours / Total number of units .6	
Two hours per week (30 hours during the semester) / Three and a half units (three and a half	
(than one name is mentioned More (if applicable) Name of the course coordinator .7	
Prof. Dr. Sawsan Ali Hamid :Name Name: Dr. Alia Ziyara Hashim	Email: sawsan.ali@uobasrah.edu.iq
Course Objectives .8	
Course objectives	• The importance and function of natural chemical components of food. .1 • How the body obtains energy. .2 • Mechanisms of energy conversion and how it is produced within the cell. .3 • Health effects resulting from the digestion .4
Teaching and learning strategies .9	
strategy	• Theoretical lectures inside classrooms . • Presentations and video materials . • Group discussions . • Learning based on problem-solving, inquiry, and brainstorming.

Course Structure .10

Evaluation	Learning	Unit or topic name	Required learning	Hours	Week
Discussion and oral questions	• Theoretical lecture • presentation group • discussion	, Metabolism ✓ catabolism and anabolism	✓ metabolism andof explanation of its importance in living .organisms ✓ ✓ Distinguishing the difference between) anabolic processes and (anabolism) catabolic processes in terms of (catabolism .function and outputs ✓ ✓ Explaining the relationship (ATP) between energy bolic processes and meta	hours 2	the first
Discussion and oral questions	• Theoretical lecture • presentation group • discussion	**Uses of bioenergy: Energy houses**	✓ bioenergetics and its of .role in living organisms ✓ ✓ function of Defining the mitochondria powerhouses) as the) center of energy .production in cells ✓ ✓ Describe the structure of mitochondria and their importance in	hours 2	the second
Discussion and oral questions	• Theoretical lecture • presentation group • discussion • Video presentations	**breathing**	✓ By the end of this lecture, the student will be able :to ✓ ✓ Defining the concept of cellular respiration and its importance in energy production for living .cells ✓	hours 2	the third

Earthen basin design project	Theoretical lecture • presentation • group discussion • Video presentations •	**Krebs cycle**	the Explaining the main purpose of Krebs cycle in cellular respiration .and energy production Determining the location of the Krebs cycle within the cell (in the .(matrix mitochondrial Diagram and illustration of the steps of the Krebs cycle, identifying the main enzymes in .step each	hours 2	Fourth
nothing	nothing	**First monthly exam**	nothing	hours 2	Fifth
Discussion and oral tionsques	Theoretical lecture • presentation • group discussion • Video presentations •	**Electron transport chain and oxidative phosphorylation**	Explaining the concept of the as (ETC) electron transport chain a set of proteins and carriers found in the inner membrane of the .mitochondria Determining the location ✓ of electron transport oxidative chain and Inside phosphorylation the cell (the inner	hours 2	Sixth
cage design project	Theoretical lecture • presentation • group discussio •	**The role of hormones in carbohydrate metabolism**	Iron is an essential hormone that . digestion regulates carbohydrate Stimulation of glucose storage in) the form of glycogen (Glycogenesis	hours 2	Seventh
Discussion and oral questions	Theoretical lecture • presentation • group discussion • Video presentations •	**Lipid metabolism / digestion and absorption of fats**	**By the end of this lesson, the :student will be able to** **Explanation of the steps** ✓ **(of lipid digestion** Fats) in the human digestive system, : including The function of bile is in ✓ the emulsification of .fats ✓	hours 2	Eighth

Discussion and oral questions	Theoretical • lecture ionpresentat • group • discussio n Video • presentat	**Protein metabolism / Protein digestion and absorption**	**Describe the process of ✓ and absorbing digesting proteinaceous substances** **Identifying the sites of ✓** **In the -1 : digestion mouth** **In the small -In the stomach 3 -2 intestine**	hours 2	Ninth
ral Discussion and o questions	Theoretical • lecture presentation • group • discussio n Video presentations	**Urea and the urea cycle**	**Explanation of urea ✓ composition** **Explanation of the urea ✓ cycle and explanations of** **-urea formation in: 1** **-Mitochondria 2** **Cytoplasm**	hours 2	tenth
Discussion and oral questions	Theoretical • lecture presentation • group • discussio n	**Acids Nucleic**	**Explanation of the ✓ nucleic concept of . acids** **Identifying the types of ✓ . nucleic acids**	hours 2	eleventh
Discussion and oral questions	Theoretical • lecture presentation • group • discussio n Video •	**etabolismNuclear protein m**	**Identifying nuclear ✓ proteins** **the Explanation of ✓ digestion and absorption of nucleoproteins** **In the -In the mouth 2 -1 ✓**	hours 2	twelfth
Discussion and oral questions	Theoretical • lecture presentation • group • discussio n	**Deficiency of enzyme V in the urea cycle**	this type of disease Explain ✓ . the extent of To determine ✓ . this disease's spread the acid Identify ✓	hours 2	thirteenth
nothing	nothing •	**monthly exam Second**	nothing ✓	hours 2	fourteenth
nothing	Theoretical • lecture presentation • group • discussio n Answering • student inquiries	**artificial intelligence General review**	**By the end of this lesson, the :student will be able to** Explaining the concept of ✓ and its use intelligence in analyzing massive amounts of genetic, protein, and metabolic .data discovering Identifying and ✓ hidden patterns between enzymes and intermediate molecules	hours 2	fifteenth

Course Evaluation .11	
the student, such as daily The grade is distributed out of 100 according to the tasks assigned to .preparation, daily, oral, monthly, written exams, reports, etc marks for attendance, participation, and answering oral questions 5 marks for reports and projects 5 marks for the first monthly exam 10 monthly exam marks for the second 10	
Learning and teaching resources .12	
There is no textbook	Required textbooks (methodology, if
Lecture Outline for ,An Introduction to Metabolism Campbell/Reece Biology, 8th Edition, © Pearson Education, Inc. 2018 Edited on behalf of The .Nutrition and Metabolism Nutrition Society by Susan A Lanham-New Ian A Macdonald Helen M Roche, 2003	(Main references (sources
, Arabi Sahar Hassan , metabolismFat 2021	books and Recommended supporting (...references (scientific journals, reports
https://www.khanacademy.org/science/biology https://www.osmosis.org	Electronic references, websites

Course description template

Course Name .1	
pathways Practical metabolic	
Course Code .2	
Term/Year .3	
2024-Second semester /2023	
Date this description was prepared .4	
2024/1/30	
Available forms of attendance .5	
Attendance inside the college laboratories	
Total study hours / Total number of units .6	
of units: 3 Number / 45	
.(Name of the course coordinator (if there is more than one, mention it .7	
Anfal Alwan Abdul Nabi :Name	:Email
Course Objectives .8	
Course objectives	• **This is a fundamental lesson in the Food Science department due to its importance in covering topics and methods for measuring blood sugar**
Teaching and learning strategies .9	
strategy	**The lectures rely on explanation, delivery style, and the use of . brainstorming**
Course Structure .10	

Evaluation Method	Learning method	Unit or topic name	Required learning outcomes	Hours	Week
Assessment during practical laboratory experiments;	**Laboratory experiments**	**Plasma separation, blood glucose estimation, blood**	**Knowledge and understanding, mental brainstorming and skills, professional and**	**3 hours per**	**15 weeks**

Course Evaluation .11	
The grade is distributed out of 100 according to the tasks assigned to the student, such as .reports, etc ,daily preparation, daily, oral, monthly, written exams	
Learning and teaching resources .12	
	Required textbooks (methodology, if (applicable
Biochemistry book	(Main references (sources
The relationship between Jawad, SM and blood (HbA1c) glycosylated hemoglobin	Recommended supporting books and (references (scientific journals, reports
Razzaq Hassan. (2007). A study of the -Abdul DMO effect of diabetes on bone mass through	Electronic references, websites

theoretical course Description of the

Course Name .1
Microbiological Food Biology / Theory
Course Code .2
FOMB315
Term/Year .3
2025-First semester / 2024
prepared Date this description was .4
2025/01/02
Available forms of attendance .5
Attendance inside classrooms
Total study hours / Total number of units .6
Two hours per week (30 hours during the semester) / Two units (two units during the
(than one name is mentioned More (if applicable) Name of the course coordinator .7
+ Prof. Dr. Sabah Malek Habib :Name sabah.habeeb@uobasrah.edu.iq :Email Dr. Sahar Sabih George :Name saher.george@uobasrah.edu.iq :Email
Course Objectives .8

Course objectives	• Identifying sources of food contamination • Reducing the growth of unwanted microorganisms in food • Using modern technologies to isolate and improve microbial strains and using them in the production of improved food suitable for human consumption
Teaching and learning strategies .9	
strategy	• . Theoretical lectures inside classrooms • . Presentations and video materials • . Group discussions • . solving, inquiry, and brainstorming-Learning based on problem

Structure Course .10

Evaluation	Learning	Unit or topic name	Required learning	Hours	Week
Discussion and oral questions	Theoretical lecture • presentation • group discussion •	The importance of microorganisms and their relationship to food	**By the end of this lesson, the student will be able to :** ✓ Explaining the concept of food biology and its importance as a source of food science. ✓ Identifying the main objectives of food microorganisms ✓ Preserving food from spoilage by microorganisms ✓ The importance and role of	hours 2	the first
Report on the most suitable and locally used production units	Theoretical lecture • presentation • group discussion •	Microorganisms and their important characteristics in food, and the general principles of food contamination and spoilage by microorganisms.	By the end of this lesson, the student will be able to : ✓ Classification of food microorganisms related foods -Food ✓ Understanding the general principles of food contamination and spoilage by microorganisms. ✓ Identifying the factors affecting food spoilage	hours 2	the second
Discussion and oral questions	Theoretical lecture • presentation • group discussion • Video presentations •	Microorganisms and pastries in bread and	By the end of this lesson, the student will be able to : ✓ Explanation of microbiology in bread and pastries. ✓ Understanding common types of spoilage in bread and pastries ✓ Identifying the types of molds responsible for bread spoilage. ✓ Knowing the types of rare spoilage	hours 2	the third

Earthen basin design project	Theoretical • lecture presentation • group discussion • Video presentations	Microorganisms in fruits and vegetables	By the end of this lesson, the student will be able to: ✓ Explanation of microbiology in fruits and vegetables ✓ Identifying the types of damage that occur to fruits and vegetables in general. ✓ Identifying the most important types of spoilage that occur in fruits and vegetables. ✓ Identifying the microorganisms	hours 2	Fourth
nothing	nothing	**First monthly exam**	nothing	hours 2	Fifth
Discussion and oral questions	Theoretical • lecture presentation • group discussion • Video presentations	Microorganisms in canned foods	By the end of this lesson ,the student will be able to: ✓ Explanation of microbiology in canned foods ✓ Identifying the types of spoilage that occur in canned foods. ✓ Design a diagram illustrating	hours 2	Sixth
cage design project	Theoretical • lecture presentation • group discussion • Video presentations	Microorganisms in red meat	By the end of this lesson, the student will be able to: ✓ Explanation of microorganisms in red meat ✓ Identifying sources of microbial contamination in meat. ✓ Understanding the forms of	hours 2	Seventh
Discussion and oral questions	Theoretical • lecture presentation • group discussion • Video presentations	Microorganisms in fish and seafood	By the end of this lesson, the student will be able to: ✓ Explanation of microbiology in fish and seafood ✓ Identifying the sources of microbial contamination of fish and seafood and the factors that promote spoilage. ✓ that occur damage microbial	hours 2	Eighth

Discussion and oral questions	Theoretical • lecture presentation • group discussion • Video presentations	**Microorganisms in poultry and eggs**	By the end of this lesson, the student will be able to: ✓ Explanation of microbiology in poultry and eggs ✓ Identifying the chemical composition of the gomme Poultry and eggs and their effect on rigor mortis and its relationship to microbial spoilage in poultry	hours 2	Ninth
nothing	nothing	**Second monthly exam**	**nothing**	hours 2	tenth
A report comparing closed aquaculture, aquaponics, and biofloc systems	Theoretical • lecture presentation • group discussion • Video presenta	**Food poisoning , mycotoxins, and biological hazards in food**	By the end of this lesson, the student will be able to: ✓ Explaining the concept of food poisoning ✓ Identifying and classifying types of food poisoning according to their likelihood of occurrence	hours 2	eleventh
Discussion and oral questions	Theoretical • lecture presentation • group discussion • Video presentations	Microorganisms in refrigerated and frozen foods	**By the end of this lesson, the student will be able to:** ✓ Explaining the concept of refrigeration and freezing and their impact on food preservation. ✓ Identifying the types of microorganisms that cause food spoilage. ✓ Analysis of factors affecting	hours 2	twelfth
Discussion and oral questions	Theoretical • lecture presentation • group discussion • Video presentations	The effect of radiation on microbes	By the end of this lesson, the student will be able to: ✓ Explaining the importance of using radiation as an effective food preservation method ✓ Determining the sensitivity or resistance of microorganisms to	hours 2	thirteenth
Discussion and oral questions	Theoretical • lecture presentation • group discussion • Video presenta	Industrial microbiology	**By the end of this lesson, the student will be able to:** ✓ Explanation of the concept of biotechnology or industrial microbiology. ✓ Identifying important product types through the use of industrial microbiology	hours 2	fourteenth

nothing	Theoretical • lecture presentation • oup gr • discussi on Answering • student	**Microorganisms indicative of food contamination and food safety standards**	By the end of this lesson, the student :will be able to Explanation of the concept of ✓ . indicator microbiology microbial Identifying all ✓ groups involved in food contamination and ,Addressing local, Arab ✓	hours 2	fifteenth

Course Evaluation .11

The grade is distributed out of 100 according to the tasks assigned to the student, such as daily .preparation, daily, oral, monthly, written exams, reports, etc

attendance, participation, and answering oral questions marks for 5

marks for reports and projects 5

marks for the first monthly exam 10

marks for the second monthly exam 10

and teaching resources Learning .12

There is a textbook Food . **(Khalaf Sufi Dawood (1988 Dulaimi-Al** -1 Kutub for -Microbiology . Second Edition . Dar Al Printing and Publishing, University of Mosul. 245 .pages Microbiology in Food . **(Faiz Aziz (2007 ,Ani-Al** -2 and Modern Techniques for Detecting It. Second	Required textbooks (methodology, if (applicable
. (Rashid Mahjoub (1990 The reformer Microbiology in Food. Second Edition. Higher . Education Press , University of Baghdad. 560 pages 4- Andrews, W. (1997). Manual of food quality control. 4. Rev. 1. Microbiological analysis. FAO	(Main references (sources
5- **Shen, C., and Zhang, Y. (2023).** *Food Microbiology Laboratory for the Food Science Students: A Practical Approach.* Second Edition, Springer International Publishing, USA.	Recommended supporting books and (...references (scientific journals, reports

6- https://www.fao.org/food microbiology 7- **Erkmen, O. (2022).** *Microbiological Analysis of Foods and Food Processing Environments* . First Edition, Academic Press, Elsevier Inc. 580 p. 8- **Da Silva, N.; Taniwaki, M.H.; Junqueira, VCA; de Arruda Silveira, N. F.; Okazaki , M. M., and Gomes, R. R. (2019).** *Microbiological Examination Methods of Food and Water: A Laboratory Manual.* Second Edition, CRC Press. Taylor & Francis Group. UK. 526p	Electronic references, websites

practical course Description of the

Course Name .1
Microbiological Food Biology / Practical
Course Code .2
FOMB315
Term/Year .3
2025-Second semester / 2024
Date this description was prepared .4
2025/01/02
attendance Available forms of .5
Presence inside the laboratory
Total study hours / Total number of units .6
Three hours per week (45 hours during the semester) / Two units (two units during the

(is mentioned than one name More (if applicable) Name of the course coordinator .7	
Dr. Nawal Khaled Zabin :Name	**nawal.zben@uobasrah.edu.iq** :Email

Course Objectives .8	
Course objectives	• Identifying sources of food contamination • Reducing the growth of unwanted microorganisms in food • Using modern technologies to isolate and improve microbial strains and using them in the production of improved food suitable for human consumption

strategies Teaching and learning .9	
strategy	• the laboratory lectures inside Practical . • Presentations and video materials . • Group discussions . • solving, inquiry, and brainstorming-Learning based on problem .

Course Structure .10

Week	Hours	Required learning	Unit or topic name	Learning	Evaluation
the first	hours 3	**By the end of this lesson, the student will be able to:** ✓ **Method of taking food samples for microbial testing .** ✓ Preparing food samples	**Some requirements for laboratory studies of microorganisms in food**	• Practical lecture • presentation • group discussion	Discussion and oral questions
the second	hours 3	**By the end of this lesson, the student will be able to:** ✓ **Methods for estimating bacterial count** ✓ Sample preparation and dilution procedures	**Methods of counting microorganisms**	• Practical lecture • presentation • group discussion	**Discussion and oral questions**

Discussion and oral questions	Practical • lecture presentation • group • discussion	**Meat microbiology**	**By the end of this lesson, the :student will be able to** **Suggested tests for raw meat** ✓ **Calculating whole numbers** ✓	hours 3	the third
Discussion and oral questions	Practical lecture • presentation • group discussion •	**Making pickled cabbage •**	**By the end of this lesson, the :student will be able to** Steps for making sauerkraut ✓ **Study of the fermentation process** ✓ **Microscopic examination** ✓ **Acidity assessment** ✓ **count Total bacterial** ✓ : enzyme reaction testcatalase ✓ **test Benzidine** ✓ **negative)ative bacteria** ✓ **Gramneg (staining** **Examination for** ✓	hours 3	Fourth
nothing	nothing	**First monthly exam**	nothing	hours 3	Fifth
Discussion and oral questions	Practical lecture • presentation • group discussion •	**tests Egg •**	**lesson, the By the end of this :student will be able to** **Egg microbiology study** ✓ **Sampling method for whole eggs** ✓ **Testing the safety of eggs from microbes** ✓	hours 3	Sixth

Discussion and oral questions	Practical lecture • presentation • group • discussion	Charts showing the • number of types of bacteria common in food	**By the end of this lesson, the :student will be able to** ✓ (Aerobic Plate Count (APC -1 ✓ Enumeration of Coliforms -2 ✓ Enumeration of Faecal streptococci -3 ✓ Detection of Salmonella -4 ✓ Enumeration of Shigella -5 ✓ Detection of Escherichia coli -6 ✓ Enumeration of Staphyllococcus aureus -7 ✓	hours 3	Seventh
Discussion and oral questions	Practical lecture • presentation • group • discussion	**Scientific Report (Research) Writing Style**	**By the end of this lesson, the :student will be able to** Introduction -1 ✓ Title -2 ✓ Materials and Methods .3 ✓ and Discussion Results -4 ✓ Reliable sources and references -5 ✓	hours 3	Eighth
Discussion and oral questions	Practical • lecture presentation • group • discussion	**Microbiological testing of soft drinks and juices Carbonated Beverages Microbiology**	**lesson, the By the end of this :student will be able to** **) soft drinks Testing (alcoholic -non** ✓ **Culture in dishes** ✓ **Nutrient Agar using medium Malt Agar Extract** **Colon bacteria test** ✓ **cap bottle the Check** ✓	hours 3	Ninth
nothing	nothing	**Second monthly exam**	nothing	hours 3	tenth
Discussion and oral questions	Practical • lecture presentation • group • discussion	**Microbiological testing of (Restaurant tool food utensils tests)**	**By the end of this lesson, the :student will be able to** **glasses Cups and** ✓ **forks** ✓ **Plates and containers** ✓ **scanning Surface method** ✓ MethodRodac ✓ MethodAluminum Cup ✓ Direct surface counting ✓	hours 3	eleventh

Discussion and oral questions	Practical • lecture presentation • group • discussion	**testDry food**	**By the end of this lesson, the :student will be able to** **Microbiological examination of dried fruits and vegetables** ✓ **pollution Sources of** ✓ **Tests performed on dried fruits** ✓	hours 3	twelfth
Discussion and oral questions	Practical • lecture tationpresen • group • discussion	**TestYeast Activity** •	**By the end of this lesson, the :student will be able to** the activity and Measuring viability of baker's yeast ✓ **method Transplantation** ✓ **Culture method** **Staining technique** ✓ **fermentation to useHow** ✓ **methodWarburg apparatus** ✓ How to measure the dough (rising speed (time ✓ How to measure pressure (CO2 (pressure) mmHg / 4 hours ✓	hours 3	thirteenth
Discussion and oral questions	Practical • lecture presentation • group • discussion	**poisoning foodfor bacterial Test**	**By the end of this lesson, the :student will be able to** **Confirming the presence and effectiveness of the poison** ✓ **Isolating bacteria** ✓	hours 3	fourteenth
Discussion and oral questions	presentation • group • discussion • Solve questions about	**of lectures General review And teaching students how to solve questions about the total .bacterial count**	**By the end of this lesson, the :student will be able to** **Reviewing all the course material and focusing on the most important topics in the .subject** ✓ **Solve the questions** ✓	hours 3	fifteenth
Course Evaluation .11					

The grade is distributed out of 100 according to the tasks assigned to the student, such as daily reports, etc ,preparation, daily, oral, monthly, written exams. marks for attendance, participation, and answering oral questions 5 marks for reports and projects 5 marks for the first monthly exam 5 marks for the second monthly exam 5	
Learning and teaching resources .12	
Practical Microbiology of Food Sciences	Required textbooks (methodology, if
Theoretical Food Biology Book	(Main references (sources
Principles of Practical Microbiology Book	Recommended supporting books and (...scientific journals, reports) references
6- https://www.fao.org/food microbiology 7- **Erkmen, O. (2022).** *Microbiological Analysis of Foods and Food Processing Environments* . First Edition, Academic Press, Elsevier Inc. 580 p. 8- **Da Silva, N.; Taniwaki, M.H.; Junqueira, VCA; de Arruda Silveira, N. F.; Okazaki , M. M., and Gomes, R. R. (2019).** *Microbiological Examination Methods of Food and Water: A Laboratory Manual.*	Electronic references, websites

theoretical course Description of the

Course Name .1
Theory / **Bread and pastries**
Course Code .2
BRDO320
Term/Year .3
2025-Second semester / 2024
Date this description was prepared .4
2025/01/02
Available forms of attendance .5
classrooms Attendance inside
Total study hours / Total number of units .6
Two hours per week (30 hours during the semester) / Two units (two units during the
(than one name is mentioned More (if applicable) Name of the course coordinator .7
Asst. Prof. Dr. Bushra Bader Jarad + **(Prof. Dr. Alaa Ghazi Eidan (email** the name
Course Objectives .8

Understanding the nutritional importance of bread ✓ **Understanding the importance of baking ingredients** ✓ **the types of flour extraction Identifying** ✓ **Highlighting the types of bread making** ✓ **Highlighting the nutritional value of ingredients used in bread and pastry making**	Course objectives

Teaching and learning strategies .9	
• . Theoretical lectures inside classrooms • . Presentations and video materials • . Group discussions • . solving, inquiry, and brainstorming-Learning based on problem	strategy

Course Structure .10

Evaluation	Learning	Unit or topic name	Required learning	Hours	Week
Discussion and oral questions	Theoretical • lecture presentation • group •	Wheat tagine	**By the end of this lesson, the :student will be able to** Knowing the strength of the ✓ flour	hours 2	the first
Discussion and oral questions	Theoretical • lecture presentation • group •	Importance of flour components	**this lesson, the By the end of :student will be able to Understanding the ✓ importance of flour**	hours 2	the second
Discussion and oral questions	Theoretical • lecture presentation • group •	composite flour	**By the end of this lesson, the :student will be able to Types of composite flour ✓**	hours 2	the third
Discussion and oral questions	Theoretical • lecture presentation •	Eggs and their products	**By the end of this lesson, the :student will be able to Understanding the ✓**	hours 2	Fourth
Discussion and oral questions	lecture Theoretical presentation	**sugar**	The student learns about sugar and .its types	hours 2	Fifth
nothing	nothing	**First exam**	**nothing**	hours 2	Sixth
Discussion and oral questions	Theoretical • lecture presentation • group •	yeast	**By the end of this lesson, the :student will be able to** Explanation of the concept ✓ of yeast and its	hours 2	Seventh
Discussion and oral questions	Theoretical • lecture presentation • group •	Flour improvers	**By the end of this lesson, the :student will be able to Flour improvers and their ✓ types**	hours 2	Eighth
Discussion and oral questions	Theoretical • lecture presentation • group • discussi	baking powder	**By the end of this lesson, the :student will be able to Understanding bread ✓ flour, its composition, and its importance**	hours 2	Ninth
Discussion and oral questions	Theoretical lecture presentation	**Shortening fats**	**The student learns about shortening fats, their types, and**	hours 2	tenth
Discussion and oral questions	Theoretical • lecture presentation • group •	**milk**	**The student learns about the types .of milk and their composition**	hours 2	eleventh

Discussion and oral questions	Theoretical • lecture presentation • group •	Bread making methods	The student learns about . making methods-bread	hours 2	twelfth
Discussion and oral questions	Theoretical • lecture presentation • group •	**bread curd**	**The student learns about bread set and methods of measuring it**	hours 2	thirteenth
Discussion and oral questions	Theoretical • lecture presentation • group	**Cake making**	**The student learns about cake making methods and types of .cakes**	hours 2	fourteenth
Discussion and oral questions	Theoretical lecture presentation	**Cake and biscuit manufacturing**	**The student learns about cake making methods and types of .cakes**	hours 2	fifteenth
nothing	nothing	**Second exam**	**nothing**	hours 2	Sixteenth

Course Evaluation .11

according to the tasks assigned to the student, such as daily 100 The grade is distributed out of .preparation, daily, oral, monthly, written exams, reports, etc

marks for attendance, participation, and answering oral questions 5

marks for reports and projects 5

monthly exam marks for the first 10

marks for the second monthly exam 10

Learning and teaching resources .12

.1990 . Bread and Pastries by Dr. Amiad Bova Sulaqa	(Required textbooks (methodology, if applicable
Many related books and magazines	(Main references (sources
Many books and magazines, including Cereals processing technology	references (scientific Recommended supporting books and (...journals, reports
Google Websites specializing in specific topics, from search.	Electronic references, websites

practical course Description of the

Name Course .1	
Bread and pastries / practical	
Course Code .2	
BRDO320	
Term/Year .3	
2025-Second semester / 2024	
Date this description was prepared .4	
2025/01/02	
Available forms of attendance .5	
Presence inside the laboratory	
number of units Total study hours / Total .6	
Three hours per week (45 hours during the semester) / One and a half units (one and a half	
(than one name is mentioned More (if applicable) Name of the course coordinator .7	
Dr. Bushra Bader Jarad :Name	bushra.jerad @uobasrah.edu.iq :Email
Course objectives .8	
Course objectives	laboratory bread and conducting sensory making Training in -1 evaluation of it Knowledge of the basic processes of bread making - 2 astries such as biscuits Making Arabic bread and various types of p - 3 and cakes Conducting frost tests – 4 Tests to measure yeast activity – 5
Teaching and learning strategies .9	
strategy	• . the laboratory and field visits lectures inside Practical • . Presentations and video materials • . Group discussions • . solving, inquiry, and brainstorming-Learning based on problem

Course Structure .10

Evaluation	Learning	Unit or topic name	Required learning	Hours	Week
Discussion and oral questions	Training in laboratory bread making	Laboratory bread making	**By the end of this lesson, the make :student will be able to bread and evaluate it .sensoryly** .	hours 3	the first
: Quick test Students identify bread defects and the best method for .bread making	Practical • lecture presentation • group • discussi on	Laboratory bread evaluation	**By the end of this lesson, the :able to student will be** about the defects of learns bread and how to avoid . them .	hours 3	the second
Students making Arabic bread	Practical • lecture presentation •	Arabic bread making	**end of this lesson, the By the :student will be able to** Arabic bread production ✓	hours 3	the third
Discussion between students and the course instructor	Explanation • by the course instructo r	Main processes for bread preparation	**By the end of this lesson, the :student will be able to** Basic processes for ✓ making such as bread mixing and fermentation	hours 3	Fourth
nothing	nothing	**Second monthly exam**	nothing	hours 3	Fifth
Conducting quality and sensory tests on biscuits	Practical • lecture presentation •	Biscuit making training	**this lesson, the By the end of :student will be able to** Biscuit manufacturing ✓ and conducting tests such as diffusion coefficient	hours 3	Sixth
Evaluating cake designs made by students	Students • making cakes practical ly	Cake making training	**lesson, the By the end of this :student will be able to** Cake manufacturing and ✓ conducting qualitative and sensory tests	hours 3	Seventh

Discussion and oral questions	Practical • lecture presentation • Conducting • practical experim ents to measure	Yeast and methods for measuring its activity	**By the end of this lesson, the :will be able to student** Identifying yeast and ✓ how to measure its activity	hours 3	Eighth
Students examining bread samples	Practical • lecture presentation •	bread curd	**end of this lesson, the By the :student will be able to** Understanding bread ✓ hardening and its causes	hours 3	Ninth
nothing	nothing	**Second monthly exam**	nothing	hours 3	tenth
Evaluation of confectionery samples made by students	Practical • lecture presentation • confectionery manufacturing Answering • student inquiries	Other pastry making	**end of this lesson, the By the :student will be able to** . Making other types of sweets	hours 3	fifteenth

Evaluation Course .11

The grade is distributed out of 100 according to the tasks assigned to the student, such as daily .preparation, daily, oral, monthly, written exams, reports, etc

marks for attendance, participation, and answering oral questions 5

ports and projectsmarks for re 5

marks for the first monthly exam 5

marks for the second monthly exam 5

Learning and teaching resources .12

	Required textbooks (methodology, if
,1990 , Bread and Pastries by Dr. Amjad Boya Sulaqa	(Main references (sources
Many related books and magazines	Recommended supporting books and (...reports ,references (scientific journals
	Electronic references, websites

theoretical course Description of the

Course Name .1	
Three English Language / Stage	
Course Code .2	
ENGL306	
Term/Year .3	
2025-First semester/ 2024	
Date this description was prepared .4	
2025/01/02	
Available forms of attendance .5	
Attendance inside classrooms	
Total study hours / Total number of units .6	
(hours during the semester) / (one unit during the semester hour per week (12 One	
(than one name is mentioned More (if applicable) Name of the course coordinator .7	
orass.yasseen@uobasrah.edu.iq :Email	M. Auras Tariq Yassin :Name
Course Objectives .8	
✓ • To enable the learner to communicate effectively and life situations-appropriately in real ✓ • Using effective strategies purposes across the curriculum ✓ • Developing and targeting the of the four language skills: reading, and writing ,listening, speaking ✓ • To review the structure that has already been learned.	Course objectives

Teaching and learning strategies .9	
• Theoretical lectures inside classrooms . • Presentations and video materials . • Group discussions . • Learning based on conversations , dialogue and brainstorming . • Learning based on reading and developing listening and writing essay skills	strategy

Course Structure .10					
Evaluation Method	**Learning method**	**Unit or topic name**	**Required learning outcomes**	**Hours**	**Week**
Discussion and oral questions	• Theoretical lecture • presentation • group discussion	**Everyday expressions in English**	**By the end of this lesson, the student will be able to:** ✓ To learn and use everyday English expressions related to student life ✓ To familiarize oneself with everyday terms used in the student's field of study	hour 1	the first
Preparing a grammar worksheet	• Theoretical lecture • presentation • exercises • Contextual exercises	**Grammar : Tenses Past and present**	**By the end of this lesson, the student will be able to:** Understanding the tenses in English in general and past tenses used in all their forms? Applying present and past tenses in describing personal and academic experiences.	hour 1	the second

Quick sentence correction test	• Theoretical lecture • presentation • Video presentations • group activities • sentence construction	**Parts of speech in context and texts**	**lesson, the By the end of this :student will be able to** **Identifying the parts of speech** ✓ **Using it in the student's daily context** ✓ **Its use within the context of the student's scientific specialization** ✓	hour 1	the third
Oral questions or oral presentation	• Theoretical lecture • presentation • Video presentations • Group dialogue activities	**Speaking skills, descriptions, and personalities**	**By the end of this lesson, the :student will be able to** **Improving skills in speaking about famous people, introducing oneself, or introducing other people.** ✓ **How to spend your vacation, including descriptions of places and activities** ✓	hour 1	Fourth
nothing	nothing	**First monthly exam**	nothing	hour 1	Fifth
Quick reading test and reading correction	• Theoretical lecture • presentation • Reading articles • Training	**and reading skills**	**By the end of this lesson, the :student will be able to** **Improving reading skills** ✓ **Improving comprehension skills** ✓	hour 1	Sixth
Oral questions Interactive group dialogues Solve exercises	• Theoretical lecture • presentation • group discussion • Video presentations • Listening to exchange	**Providing suggestions , advice , and invitations**	**By the end of this lesson, the : student will be able to** **Interpretation of advice** **Making suggestions using modal verbs** **Sending invitations**	hour 1	Seventh

Writing grammar worksheets	• Theoretical lecture • presentation • exercises • Contextual exercises	**tools and styles in linking sentences**	**By the end of this lesson, the :student will be able to** **Linking sentences ✓** **conditional tools Using ✓** **How to use conditional ✓ clauses in academic writing**	hour 1	Eighth
Discussion and oral questions Sentence correction test Writing grammar papers	• Theoretical lecture • presentation • Video presentations • exercises • sentence construction	**Comparison and contrast techniques and sentence linking tools**	**By the end of this lesson, the :will be able to student** **How to use comparison and contrast in academic writing ✓** **The difference between comparison and contrast ✓** **Types of sentences and conjunctions ✓**	hour 1	Ninth
nothing	nothing	**Second monthly exam**	**nothing**	hour 1	tenth
Submitting essay papers with corrections	• Theoretical lecture • presentation • Video presentations • Writing short paragraphs • Writing descriptive	**Writing and creating paragraphs**	**By the end of this lesson, the :student will be able to** **Developing short paragraph writing skills on familiar topics ✓** **What is academic writing? ✓** **Writing a description of places, things, or people ✓**	hour 1	eleventh
Comprehension exercises Verbal exercises Listening test	• Theoretical lecture • presentation • Audio clips and long satconversions • Answering comprehension questions • and pronunci	**Listening , hearing , and sounds**	**By the end of this lesson, the :student will be able to** **Expanding vocabulary and improving listening comprehension through listening to narrative audio clips ✓** **what Comprehending was heard and answering the questions ✓** **and interpreting long ✓**	hour 1	twelfth
Discussion and oral dialogues	• Theoretical lecture • presentation • group discussions • Video presentations • Introducing oneself or others	**Conversation and conducting dialogue**	**By the end of this lesson, the :student will be able to** **Conducting conversations ✓** **Introducing himself in interviews ✓** **Introducing people ✓**	hour 1	thirteenth

Discussion and oral questions	• Theoretical lecture • presentation • group discussion • Video presentations	**passive voice**	**By the end of this lesson, the student will be able to:** ✓ **Past tense and present passive voice** ✓ **The purpose of using this method** ✓ **How is it used in academic paragraphs?**	hour 1	fourteenth
nothing	• Theoretical lecture • presentation • group discussion • Answering student inquiries	review	**By the end of this lesson, the student will be able to:** ✓ **Review the above material in preparation for the final exam.**	hour 1	fifteenth

11. Course Evaluation

The grade is distributed out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc.

marks for attendance, participation, and answering oral questions 5
marks for tests and grammar papers 5
marks for the first monthly exam 20
marks for the second monthly exam 20
marks for the final exam 50
Total 100 points

12. Learning and teaching resources

Required textbooks (methodology, if applicable)	There is no textbook
(Main references (sources	Headway intermediate Select reading
Recommended supporting books and references (scientific journals, reports...)	English grammar in use Grammar, punctuation and spelling English phonetics and phonology English academic writing
websites ,Electronic references	https://www.bbc

theoretical course Description of the

Course Name .1
Human Nutrition / Theory
Course Code .2
HUNU316
Term/Year .3
2025-First semester / 2024
Date this description was prepared .4
2025/10/02
attendance Available forms of .5
Attendance inside classrooms
Total study hours / Total number of units .6
(Two hours per week (30 hours during the semester) / Two units (two units during the semester
(mentioned than one name is More (if applicable) Name of the course coordinator .7
Dr. Alaa Mohammed Sadkhan :Name alaa.sadkhan@uobasrah.edu.iq :Email Dr. Abdulbasit Falih Hassan Abdulbasit.hasan@uobasrah.edu.iq
Course Objectives .8

Course objectives	• Studying the main components of food, their nutritional value, their importance to human health, and how the process of food digestion takes place within the human body. The study of metabolic and absorption process-es and food-related diseases that humans may contract.

Teaching and learning strategies .9

strategy	• Theoretical lectures inside classrooms . • Presentations and video materials . • Group discussions . • Problem-Learning based on problem solving, inquiry, and brainstorming . • Project and based -based learning .

Course Structure .10					
Evaluation Method	**Learning method**	**Unit or topic name**	**Required learning outcomes**	**Hours**	**Week**
Daily quiz, term exam, and report Discussion and oral questions	• Two hour theoretical lectures • Theoretical lecture presentation • group discussion	Introduction to food and nutrition, nutritional terminology, and the relationship of food to other sciences.	✓ Introduction to Food and Nutrition	2	1
Discussion and oral questions	• Theoretical lecture presentation • group discussion	Water and proteins	✓ Nutrients	2	2
Daily quiz, term exam, and report Discussion and oral questions	• Theoretical lecture presentation • group discussion	(sugars , and fiber) Carbohydrates ,	✓ Nutrients	2	3
Daily quiz, term exam, and report Discussion and oral	• Theoretical lecture presentation • group discussion	fats	Nutrients	2	4
			Exam on the material covered in the four	2	5

Discussion and oral questions	Theoretical lecture • presentation • group discussion •	Vitamins and minerals	Nutrients ✓	2	6
Daily quiz, term exam, and report Discussion and oral questions	Theoretical lecture • presentation • group discussion •	Digestion, hunger, thirst, food additives, and meal planning	Digestion and absorption	2	7
Discussion and oral questions	Theoretical lecture • presentation • group discussion •	Absorption and metabolism	Metabolic processes ✓	2	8
Discussion and oral questions	Theoretical lecture • presentation • group discussion •	Food energy calculations	Food energy ✓	2	9
Discussion and oral questions		Obesity	Nutrition and Modern Diseases	2	10
Discussion and oral questions	Theoretical lecture • presentation • group discussion •	Nutrition and Diabetes	Nutrition and Modern Diseases ✓	2	11

Discussion and oral questions	Theoretical • lecture presentation • group • discussion	Nutrition, heart disease, and atherosclerosis	Nutrition and ✓ Modern Diseases	2	12
Discussion and oral questions	Theoretical • lecture presentation • group • discussion	Nutrition and Cancer	Nutrition and ✓ Modern Diseases	2	13
Discussion and oral questions	Theoretical • lecture presentation • group • discussion	Nutrition, malnutrition, and anemia	Nutrition and ✓ Modern Diseases	2	14
Discussion and oral questions	Theoretical • lecture presentation • group • discussion	Calculating daily nutritional needs	Calculating ✓ daily nutritional needs	2	15
			Second exam ✓ on the material	1	16

nothing	• Theoretical lecture • presentation group discussion • Answering student inquiries	artificial intelligence General review	✓ By the end of this lesson, the student will be able to: ✓ Explaining the concept of artificial intelligence and its applications in the field of human nutrition. ✓ Identifying smart technologies used in monitoring and food managing systems. ✓ Analyzing the role of artificial intelligence in improving and nutrition	2	17

11. Course Evaluation

The grade is distributed out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc.

daily and monthly exams)	50
degrees of comprehension	10
participants	20
Attendance	10
Report	10
total marks	100

12. Learning and teaching resources

There is no textbook	Required textbooks (methodology, if applicable)

Mar'i, Abdul Karim (2019). • Fundamentals of Nutrition Science, Dar Zaytoonah -Zaman, Al-Jalees Al . University of Jordan Awida, Essam Hassan (2012). • -Fundamentals of Human Nutrition, Al Obaikan Library, Riyadh, Fourth Edition . Sharjabi, Fahd Abdul Hamid -Al• Principles of Human Nutrition .(2015) and Metabolism. Aden House for Printing and Publishing, Taiz University, . c of YemenRepubli Futuh, Sharifa (2006). Healthy -Abu Al• Nutrition and a Healthy Body. Atlas Publishing and Media Production House. Cairo, Arab Republic of Egypt.	(Main references (sources

theoretical course Description of the

Course Name .1
Theoretical / grain manufacturing
Course Code .2
CER313
Term/Year .3
2025-First semester/ 2024
Date this description was prepared .4
2025/6/14
Available forms of attendance .5
Attendance inside classrooms
number of units Total study hours / Total .6
Two hours per week (30 hours during the semester) / Two units (two units during the (semester
(than one name is mentioned More (if applicable) Name of the course coordinator .7
:Email ,Asst. Prof. Dr. Bushra Bader Jarad , :Email ,Prof. Dr. Alaa Ghazi :Name bushra.jarad@uobasrah.edu.iq
Course Objectives .8

Course objectives	**Knowing the characteristics of grains** ✓ **Understanding the nutritional value of grains** ✓ **How to handle grain shipments in mills** ✓ **grain storage** ✓ **Understanding henna grinding technology** ✓ **Grain products industry**

Teaching and learning strategies .9	
strategy	• Theoretical lectures inside classrooms . • Presentations and video materials . • Group discussions . • solving, inquiry, and brainstorming-Learning based on problem . • based learning -project and based .

Course Structure .10					
Evaluation Method	**Learning method**	**Unit or topic name**	**Required learning**	**Hours**	**Week**
Discussion and oral questions	Theoretical lecture • presentation • discussion group •	Introduction: A of the definition importance of grains and their nutritional .value Its components and uses	By the end of this lesson, the student :will be able to Understanding ✓ the chemical composition of grains	hours 2	the first
and Discussion oral questions	Theoretical lecture • presentation • group discussion •	Principles of Grain Grading	**By the end of this lesson, the student will be able :to The student ✓ learns the basics of grain .grading**	hours 2	the second
Discussion and oral questions	lecture Theoretical • presentation • group discussion •	Grain transport -systems Physical properties of	**By the end of this lesson, the student will be able :to The student ✓ learns about different grain**	hours 2	the third
Earthen basin design project	Theoretical lecture • presentation • group discussion •	Foundations and development of grain storage Changes that occur during storage. Types of grain damage	**By the end of this lesson, the student will The :be able to student will be able to identify the different methods of storing**	hours 2	Fourth
Discussion and oral questions	Theoretical lecture • presentation • group discussion •	**Basics of wheat -processing Wheat grain structure**	**By the end of this lesson, will be able the student :to Understanding ✓ the chemical composition of**	hours 2	Fifth
Visit to the General Company for Grain Manufacturing	Theoretical lecture • presentation • group discussion •	Wheat milling technology	**By the end of this lesson, the student will be able to the stages of identify .wheat milling**	hours 2	Sixth
Discussion and oral questions	Theoretical lecture • presentation • group discussion •	**– Types of mills Stages of technical milling**	**By the end of this lesson, the student will be able identify the types of :to mills and the technical .stages of milling**	hours 2	Seventh
Discussion and oral questions	Theoretical lecture • presentation • group discussion •	**wheat proteins**	**By the end of this lesson, the student will be able :to Identifying wheat ✓ proteins and their**	hours 2	Eighth
Discussion and oral questions	Theoretical lecture presentation group discussion	Noodle manufacturing	**about The student learns the ingredients of noodles .and how they are made**	hours 2	Ninth

nothing	nothing	**First exam**	. nothing	hours 2	tenth
Discussion and oral questions	Theoretical lecture • presentation • group discussion •	**yellow corn**	**,By the end of this lesson the student will be able :to** The composition ✓ of yellow corn and its	hours 2	eleventh
Discussion and oral questions	Theoretical lecture • presentation • group discussion •	**coarse wheat**	**By the end of this lesson, the student will be able :to Knowledge of ✓ durum wheat, its properties,**	hours 2	twelfth
Discussion and oral questions	Theoretical lecture • presentation • group discussion •	oats	**By the end of this lesson, the student will be able :to Understanding ✓ the nutritional and health benefits of oats**	hours 2	thirteenth
Discussion and oral questions	Theoretical lecture • presentation • group discussion •	barley	**By the end of this lesson, the student will be able :to Identifying the ✓ chemical composition of barley, its types, and the**	hours 2	fourteenth
Discussion and oral questions	Theoretical lecture • presentation •	rice	**Identifying the chemical composition of rice, its products it types, and the .is used in manufacturing**	hours 2	fifteenth
nothing	nothing	**Second exam**	. nothing	hours 2	Sixteenth

Course Evaluation .11

to the student, such as daily The grade is distributed out of 100 according to the tasks assigned .preparation, daily, oral, monthly, written exams, reports, etc
marks for attendance, participation, and answering oral questions 5
marks for reports and projects 5
marks for the first monthly exam 10
onthly exammarks for the second m 10
marks for the final exam 30
Total 60 points
degrees for the practical part 40

Learning and teaching resources .12

Grain . (1983). Saidi, Muhammad Abd-Al Technology	Required textbooks (methodology, if (applicable
	(sources) Main references

Many books and magazines, including Cereals processing technology	Recommended supporting books and references (scientific journals, (...reports
Websites specializing in specific topics, from Google search.	Electronic references, websites

practical course Description of the

Course Name .1
practical / **Grain manufacturing**
Course Code .2
CER313
Term/Year .3
2025-Second semester / 2024
Date this description was prepared .4
2025/01/02
Available forms of attendance .5
inside the laboratory Presence
Total study hours / Total number of units .6
Three hours per week (45 hours during the semester) / One and a half units (one and a half (units during the semester

(e is mentionedthan one nam More (if applicable) Name of the course coordinator .7	
Dr. Sadiq Jawad Mohammed :Name sadiq.muhammed@uobasrah.edu.iq :Email	
Course Objectives .8	
Course objectives	• Understanding the morphological characteristics of grains • Knowing the chemical composition of grains • The process of moistening grain shipments in mills • Flour strength tests • Identifying devices for measuring the rheological properties of flour
Teaching and learning strategies .9	
strategy	• the laboratory and field visits lectures inside Practical . • Presentations and video materials . • Group discussions . • Learning based on problem-solving, inquiry, and brainstorming . • project and based -based learning .
Course Structure .10	

Week	Hours	Required learning outcomes	Unit or topic name	Learning method	Evaluation Method
the first	hours 3	**By the end of this lesson, the student will be able to:** ✓ Knows the morphological characteristics of grain types	**Identifying the morphological characteristics of grains**	• Practical lecture • presentation	Students examining different types of grains
the second	hours 3	**By the end of this lesson, the student will be able to:** ✓ Estimating the moisture content of different types of grains	Humidity estimation	• lecture Practical • presentation • group discussion	Students estimated the moisture content of various types of grains.
the third	hours 3	✓ The student learns to estimate ash in grains	**Ash estimation**	• Practical lecture • presentation	Students estimating the ash content of different types of grains

Discussion between students and the course instructor	Explanation by the course instructor •	the Calculating flour extraction rate	The student ✓ how to learns calculate the extraction rate for different	hours 3	Fourth
Students extracting starch	Practical lecture • presentation •	**Starch extraction**	**The student learns how from to extract starch .various types of grains**	hours 3	Fifth
Students separate the kidneys and calculate their wet and dry .weights	Practical lecture • presentation •	wheat gluten	**The student ✓ learns how to separate gluten from different**	hours 3	Sixth
Students conducting flour strength tests	Explanation by the course instructor • Practical lecture •	Flour strength . sedimentation test	**The student ✓ learns about flour strength .tests**	hours 3	Seventh
Discussion and oral questions	Practical lecture • presentation •	Grain enzyme test	**By the end of this lesson, the student will :be able to** Identifying grain ✓ enzymes, their types, and their uses	hours 3	Eighth
nothing	nothing	**First month exam**	nothing	hours 3	Ninth
A report discussing the farinograph	Practical lecture • presentation •	Varenochraf test	**By the end of this lesson, the student will :be able to** Introduction to ✓ the varinograph and rheological tests	hours 3	tenth
Students measuring the protein content in grains	Practical lecture • presentation •	**protein Measuring the in grains content**	**By the end of this lesson, the student will :be able to** Identifying grain ✓ proteins and measuring	hours 3	eleventh
Students moistening the wheat	Practical lecture • presentation •	.Grain conditioning	**By the end of this lesson, the student will :be able to** Identifying wheat ✓	hours 3	twelfth
Discussion and oral questions	Practical lecture • presentation •	**Pasta tests**	**By the end of this will lesson, the student :be able to** Explanation of ✓ how pasta is made and pasta testing procedures	hours 3	thirteenth

Students extract oil from grains and estimate its weight	Practical lecture • presentation •	**Grain fat extraction**	**By the end of this lesson, the student will :be able to Extracting fats from grains**	hours 3	thirteenth
nothing	•	**Second monthly exam**		hours 3	fifteenth

Course Evaluation .11

assigned to the student, such as daily The grade is distributed out of 100 according to the tasks .preparation, daily, oral, monthly, written exams, reports, etc
marks for attendance, participation, and answering oral questions 5
marks for reports and projects 5
marks for the first monthly exam 5
second monthly exam marks for the 5
marks for the final exam 20
Total 40 points
points for the theoretical part 60

Learning and teaching resources .12

Grain . (1983). Saidi, Muhammad Abd-Al Technology	Required textbooks (methodology, if (applicable
year students-Practical book on grains for third Sahi-Dr. Ali Ahmed Al	(sources) Main references
	Recommended supporting books and (...references (scientific journals, reports
	Electronic references, websites

Course description template

Course Name .1
Theoretical Dairy Chemistry
Course Code .2
Term/Year .3
2025- 2024 Chapter Two
Date this description was prepared .4
2025/2/5
Available forms of attendance .5
hall
Total number of study hours / Total number of units .6
hours for 14 weeks, 4 units 2
(Name of the course coordinator (if there is more than one, mention it .7
Najla.saper @ :Email **Dr. Najla Hussein Sabr** :Name **@uobasrah.edu.iq**
: Course Objectives .8

Understanding the chemical composition of milk . **A study of the variation in milk composition .**	Course objectives

Teaching and learning strategies .9	
The dairy chemistry course is one of the important courses in the Food Science Department, as it guides students on the	strategy
Course Structure .10	

Evaluation Method	Learning method	Unit or topic name	Required learning outcomes	Hours	Week
Daily questions, discussions and	PowerPoint presentation on screen	The chemical composition of milk	By the end of this lesson, the student will be able to: Explaining ✓	2	1

Daily , questions discussions and , quizzes	**PowerPoint**	**milk fat**	**By the end of this lesson, the student :will be able to** ✓ Explaining the concept	**2**	**2**
Daily , questions discussions and	**PowerPoint**	**milk fat damage**	**By the end of this lesson, the student :will be able to** ✓ Clarifying the	**2**	**3**
Daily , questions discussions and , quizzes	**PowerPoint**	**Rancidity of the fat**	**end of this the lesson, the student :will be able to** ✓ Clarifying the concept of	**2**	**4**
Daily , questions discussions and , quizzes	**PowerPoint**	**Fat oxidation**	**end of this the lesson, the student :will be able to** ✓ Explaining the concept	**2**	**5**
Daily , questions discussions and , quizzes	**PowerPoint**	**milk proteins**	**By the end of this lesson, the student :will be able to** ✓ Explaining the concept	**2**	**6**
Daily , questions discussions and , quizzes	**PowerPoint**	**milk sugar**	**end of this the lesson, the student :will be able to** ✓ Explaining the concept	**2**	**7**
Daily , questions discussions and , quizzes	**PowerPoint**	**milk salts**	**end of this the lesson, the student :will be able to** ✓ Explanation of the	**2**	**8**
Daily , questions discussions and , quizzes	**PowerPoint**	**Milk vitamins**	**end of this the lesson, the student :will be able to** ✓ Explaining the concept	**2**	**9**
Daily , questions discussions and , quizzes	**PowerPoint**	**milk enzymes**	**end of this the lesson, the student :will be able to** ✓ Explaining the concept	**2**	**10**

Course Evaluation .11	
to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, The grade is distributed out of 100 according	
Learning and teaching resources .12	
-Al Mohsen .Dr / Dairy Chemistry Mohammed Amer Shabibi and Dr	Required textbooks (methodology, if (applicable
dairy chemistry	(Main references (sources
Principles of dairy chemistry	Recommended supporting books and (..references (scientific journals, reports
Research in Dairy Chemistry	Electronic references, websites

Course Name .1
Microbiology of Milk / Theory
Course Code .2
DAMB322
Term/Year .3
2025-Second semester / 2024
Date this description was prepared .4
2025/01/02
Available forms of attendance .5
Attendance inside classrooms
units Total study hours / Total number of .6
Two hours per week (30 hours during the semester) / Three and a half units (three and a half (units during the semester
(than one name is mentioned More (if applicable) Name of the course coordinator .7
Email: alaa.niamah@uobasrah.edu.iq Prof. Dr. Alaa Karim Naima :Name
Course Objectives .8

The creatures on And the revelation identification corruption relationship she has that minute snake on . Identifying them. Dairy products products . With milk Related Diseases **. Starters, their production methods, and their uses** **and products lactic sour bacteria on identification . Fermented Dairy** **. Diseases some treatment in Vitality Boosters Use** **pesticide Detection of mycotoxins and residues in milk and dairy products** **Healthy ways to handle dairy products**	Course objectives

9. Teaching and learning strategies

. Theoretical lectures inside classrooms • . video materials Presentations and • . Group discussions • . solving, inquiry, and brainstorming-Learning based on problem • . based learning -project and based •	strategy

10. Course Structure

Evaluation Method	Learning method	Unit or topic name	Required learning outcomes	Hours	Week
Discussion and oral questions	Theoretical lecture • presentation • group discussion •	**Microorganisms in milk**	Microorganisms present in liquid milk : **Explanation** ✓ Types of microorganisms found in milk before and after milking **:to explain** ✓ Definition of milk : **Definition** ✓ Types of milk ✓ Types of microorganisms found in milk and causes of contamination ✓ lkNatural antibodies found in mi ✓ Mastitis: its causes and how to prevent it ✓ Diseases transmitted through liquid milk ✓	hours 2	the first
Discussion and oral questions	Theoretical lecture • presentation • group discussion •	**Microorganisms in cream**	Microorganisms found in cream **:Explanation** ✓ Identifying the types of cream produced, how they are produced, and the microorganisms present .in them **:Explanation** ✓ Organisms found in the cream **:Identifying** ✓ Fungi that infect custard apple ✓ Starters used in fermented cream ✓ therapeutic fermented cream ✓ t coagulation and its Swee causes ✓ Diseases transmitted through ✓	hours 2	the second

Discussion and oral questions	Theoretical lecture • presentation • group discussion • Video presentations •	**Microorganisms in butter**	Microorganisms and their found in butter types **:Explanation** ✓ Detection of the butter produced and the microorganisms that damage it. **:Explanation** ✓ the types of butter produced **Identifying** ✓ Buttermilk: its production methods and uses ✓ damaging bacteria-Butter ✓ Fungi that damage butter ✓	hours 2	the third
Earthen basin design project	Theoretical lecture • presentation • group iodiscussion • Video presentations •	**lactic acid ferments**	ferments Lacteal and their types **:Explanation** ✓ Fermenters, how they are produced **:to explain** ✓ Types of fermenters produced worldwide **:Identifying** ✓ Reasons for the diversity and differences in dairy products ✓ Dairy products produced in Iraq, the most famous of which is laban raib (fermented yogurt). ✓ Alcoholic fermented dairy products ✓ Kefir ✓	hours 2	Fourth
Discussion and oral questions	Theoretical lecture • presentation • group discussion • Video presentations	**Prefixes**	Starters used in dairy products **:Explanation** ✓ Types of starter cultures used in dairy products **:to explain** ✓ Types of lactic acid bacteria starters **:Identification** ✓ precursors by production Classification of ✓ Prefixes are divided according to colonies ✓ Activating the primers ✓ Tests used in primer efficiency ✓ Bacteriophages and their types ✓	hours 2	Fifth
Discussion and oral questions	Theoretical lecture • presentation • group discussion • Video presentations •	**Lactic acid bacteria**	acid Lactic bacteria and their use in dairy products **:Explanation** ✓ Types of lactic acid bacteria and their characteristics **:to explain** ✓ Types of lactic acid bacteria **:Identification** ✓ Bacterial classification ✓ Its nutritional requirements ✓ Isolation and diagnosis of bacteria ✓ Bacterial metabolic pathways ✓	hours 2	Sixth
nothing	nothing •	**First monthly exam**	nothing ✓	hours 2	Seventh

Discussion and oral questions	• Theoretical lecture • presentation • group discussion • Video presentations	**Probiotics in milk and dairy products**	Types of probiotics, their uses, and their **: identification** metabolic products ✓ probiotic of Uses **: a description** bacteria in the production of healthy dairy products beneficial to the body ✓ Types of probiotic bacteria **:to set** ✓ Bacterial classification ✓ Its nutritional requirements ✓ Isolation and diagnosis of bacteria ✓ Bacterial metabolic pathways ✓ l benefitsIts health and functiona ✓ Genetic testing in identifying types of bacteria ✓ The difference between lactic acid ✓	hours 2	Eighth
Discussion and oral questions	• Theoretical lecture • presentation • group discussion • Video presentations	**Mycotoxins in dairy products**	Mycotoxins in milk **:Definition** and milk products ✓ Detection of mycotoxin types in milk and dairy products **: to explain** ✓ Types of mycotoxins **:clarification** ✓ Definition of mycotoxins ✓ Types of fungi that produce mycotoxins ✓ Method for detecting mycotoxins ✓ type mycotoxinm1 ✓ Effect of lactic acid bacteria on and their products mycotoxins ✓	hours 2	Ninth
Discussion and oral questions	• al Theoretic lecture • presentation • group discussion Video presentations	**Pesticide residues in milk and dairy products**	residues **Definition: Pesticide** in milk and milk products ✓ Detection of pesticide residue types in milk and dairy products **: to explain** ✓ Types of pesticides found in milk and its products **:clarification** ✓ Definition of pesticides ✓ Types of pesticides according to their use ✓ Methods for detecting pesticides ✓ Effect of lactic acid bacteria pesticide and their products on residues ✓	hours 2	tenth
Discussion and oral questions	• Theoretical lecture • presentation • group discussion • Video presentations	**Antibodies produced by lactic acid bacteria**	antibodies **Definition: Natural** produced by lactic acid bacteria ✓ Types of antibiotics produced and their effect on microorganisms **: to explain** ✓ Types of organic acids produced by bacteria **:clarification** ✓ Hydrogen peroxide produced by bacteria and its effect on types of microorganisms ✓ Types of flavor compounds produced and their metabolic ✓	hours 2	eleventh

Discussion and oral questions	Theoretical lecture • presentation • group discussion • Video presentations •	**Cheeses and their manufacturing methods**	Cheeses, their types, and methods of production. **:Definition** ✓ The method of manufacturing different types of cheese and the type of bacteria used. **: to explain** ✓ Types of cheese **:clarification** ✓ Methods of cheese production ✓ Methods and types of fermentation ✓ Types of starters used in ✓	hours 2	twelfth
Discussion and oral questions	Theoretical lecture • presentation • group discussion • Video presentations •	**Metabolic pathways of lactic acid bacteria**	metabolic pathways that bacteria use in the production of dairy products. **Definition: The** ✓ Types of metabolic pathways and their benefits in products **: to explain** ✓ Metabolic pathways of fermenting homogenate bacteria **:clarification** ✓ Metabolic pathways of heterofermenting bacteria ✓ -Metabolic pathways of flavor ducing bacteriapro ✓ Lowry pathway for galactose ✓	hours 2	thirteenth
nothing	nothing •	**monthly exam Second**	nothing ✓	hours 2	fourteenth
nothing	Theoretical lecture • presentation • group discussion • Answering student inquiries •	Safety of microorganisms in milk	Health and safety requirements for dairy products **:Definition** ✓ Hygiene conditions are provided in dairy factories **: to explain** ✓ **The** conditions that **health** must be followed in dairy factories and for their workers, by providing a suitable healthy **:clarification** ✓	hours 2	fifteenth

Course Evaluation .11

The grade is distributed out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc.

marks for attendance, participation, and answering oral questions 5

marks for reports and projects 5

marks for the first monthly exam 10

marks for the second monthly exam 10

marks for the final exam 30

Total 60 points

degrees for the practical part 40

Learning and teaching resources .12

There is no textbook	Required textbooks (methodology, if applicable)

1- Marth, E. H., & Steele, J. (Eds.). (2001). *Applied dairy microbiology* . CRC Press. 2- Robinson, R. K. (Ed.). (2005). *Dairy microbiology handbook: the microbiology of milk and milk products* . 3- Harrigan, W. F., & McCance, M. E. (1979). Laboratory methods in food and dairy microbiology. *Laboratory methods in food and dairy microbiology.* 4- DiLiello, L.R. (1982). *Methods in food and .dairy microbiology* . AVI Publishing Co. Inc.	(Main references (sources
	porting books and Recommended sup (...references (scientific journals, reports
	Electronic references, websites

Theory

Course Name .1
Food Chemistry / Theory
Course Code .2
Term/Year .3
2025-First semester / 2024
Date this description was prepared .4
2025/01/02
Available forms of attendance .5
Attendance inside classrooms
Total study hours / Total number of units .6

Two hours per week (30 hours during the semester) / Three units
(is mentioned than one name More (if applicable) Name of the course coordinator .7
Prof. Dr. Sawsan Ali Hamid :Name Dr. Anfal Alwan Abdul Nabi :Name anfal.abdul nabi@uobasrah.edu.iq :Email Email: sawsan.hameed@uobasrah.edu.iq
Course Objectives .8

Course objectives	• The study of theoretical food chemistry in the Food Science Department at the College of Agriculture aims to provide depth -students with the scientific foundations and in understanding of the chemical components of food and their m to address the various challenges in interactions, enabling the food processing, preservation, development, and safety. Key objectives include : • **Knowing the chemical composition of the main components** • **: Understanding vital and nutritional functions** • **e effect of these interactionsth And Study of chemical changes**

Teaching and learning strategies .9	
strategy	• Theoretical lectures inside classrooms . • Presentations and video materials . • Group discussions . • Learning based on problem -solving, inquiry, and brainstorming . • project and based -based learning .

Course Structure .10

Week	Hours	Required learning outcomes	Unit or topic name	Learning method	Evaluation Method
the first	hours 2	General explanation of the subject of food chemistry	**his mother Introduction to**	• Theoretical lecture • presentation • group discussion	Discussion and oral questions

Discussion	Theoretical lecture • presentation • group discussion •	**Carbohydrates: Their Importance and Classification**	**The topic was explained in detail, covering all its aspects.** ✓	hours 2	the second
Discussion and oral questions	Theoretical lecture • presentation • group discussion • Video presentations •	**Part two of carbohydrates**	**The topic was explained in detail, covering all its aspects.** ✓	hours 2	the third
	Theoretical lecture • presentation • group discussion • Video presentations •	**Amino acids**	**The topic was explained in detail, covering all its aspects.**	hours 2	Fourth
nothing	nothing	**First monthly exam**	nothing	hours 2	Fifth
Discussion and oral questions	Theoretical lecture • presentation • group discussion • Video presentations •	**proteins**	**The topic was explained in detail, covering all its aspects.** ✓	hours 2	Sixth

	• Theoretical lecture • presentation group • discussion • Video presentations	**The remaining part of the proteins**	**The topic was explained in detail, covering all its aspects.**	hours 2	Seventh
	• Theoretical lecture • presentation group • discussion • Video presentations	**Enzymes, active sites, enzyme activators and inhibitors**	**Defining enzymes and explaining the role of active sites in biological reactions.** **Distinguishing between enzyme activators and inhibitors and their effect on enzyme activity.** **understand Applying concepts to the control of biological and nutritional processes.**	hours 2	Eighth
	• Theoretical lecture • presentation group • discussion • Video presentations	**Desirable and undesirable enzymes, food in changes enzymes**	**Distinguishing between desirable changes resulting and undesirable from enzyme activity in food.** **Explaining the role of enzymes in improving the sensory properties and nutritional quality of products.** **Evaluating the impact of enzymes on food safety and shelf life.**	hours 2	Ninth
Discussion and oral questions	• Theoretical lecture • presentation group • discussion • Video presentations	Lipids, their classification, triglycerides, fatty acids, idsphospholip	Classification of fat types and their basic chemical components . Interpretation of the physical and chemical properties of triglycerides, fatty acids and phospholipids . • Analysis of the role of fats and their components in food functions and quality	hours 2	tenth
Discussion and oral questions	• Theoretical lecture • presentation group • discussion • Video presentations	**oxidation-rancidity , auto**	Defining the phenomenon of food rancidity and explaining the oxidation-mechanism of auto. Explaining the factors that influence rate of rancidity and the the development of undesirable flavors. Discussion of methods to reduce oxidation in order to extend the -auto shelf life of food.	hours 2	eleventh
	• Theoretical lecture • presentation group • discussion • Video presentations	**rancidity-Antioxidants , hydro**	Definition of antioxidants and their role in food preservation . Explanation of the mechanism of aqueous rancidity and its effect on food quality . Comparison between the role of antioxidants in reducing oxidation and water rancidity .	hours 2	twelfth

	Theoretical • lecture presentation • group discussion • Video presentations	**antioxidantsof Classification And its operating mechanisms**	Classification of antioxidants into main types according to their . sources and mechanism of action Explanation of the basic mechanisms of action of . antioxidants in food Analyzing the relationship • between the type of antioxidant and in protecting its effectiveness . against oxidation	hours 2	thirteenth
	Theoretical • lecture presentation • group discussion • Video presentations	**Colorants , chlorophyll, carotenoids, flavonoids**	Classify antioxidants into main types based on their sources and mechanisms of action. Explain the fundamental mechanisms of antioxidant action in foods. Analyze the relationship between the type of antioxidant and its effectiveness in oxidation prevention.	hours 2	fourteenth
nothing	nothing •	**monthly exam Second**	**nothing**	hours 2	fifteenth

Course Evaluation .11

The grade is distributed out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc.

Learning and teaching resources .12

There is no textbook	Required textbooks (methodology, (if applicable
Food Chemistry Book	(Main references (sources

Introduction to Food Chemistry Fennema, O. R., Damodaran, S., & Parkin, K. L. (2017). Introduction to food chemistry. In Fennema's food chemistry (pp. 1-16). CRC Press. Belitz, H.-D., Grosch, W., & Schieberle, P. (2009). Food .Chemistry (4th ed.). Springer Coultate, T. P. (2016). Food: The Chemistry of its .Components (6th ed.). Royal Society of Chemistry Francis, F. J. (1995). Pigments in Foods: Chlorophylls .and Carotenoids. Springer Carle, R., & Schweiggert, R. M. (2016). Handbook on Natural Pigments in Food and Beverages: Industrial Applications for Improving Food Color. Woodhead .Publishing Delgado-Vargas, F., Jiménez, A. R., & Paredes-López, O. (2000). Natural Pigments: Carotenoids, Anthocyanins, and Betalains – Characteristics, Biosynthesis, Processing, and Stability. Critical Reviews in Food Science and Nutrition, 40(3), 173–289	Recommended supporting books references (scientific journals, and (...reports
FAO – Food and Agriculture Organization -1 https://www.fao.org Institute of Food Technologists (IFT) -2 https://www.ift.org ScienceDirect - Food Chemistry Journal -3 https://www.sciencedirect.com/journal/food-chemistry Springer - Food Biochemistry https://link.springer.com/journal/11483 -4	Electronic references, websites

Course Name .1
(Dairy Chemistry (Practical
Course Code .2
DACH319

Term/Year .3	
2025-First semester 2024	
Date this description was prepared .4	
2025/01/02	
Available forms of attendance .5	
Laboratory attendance and field visits	
Total study hours / Total number of units .6	
(Three hours per week (45 hours during the semester) / One and a half units (one and a half units during the semester	
(than one, please mention it Name of the course coordinator (if there is more .7	
Name: M.M. Sarah Hashim Musa	**Sarah.Musa@uobasrah.edu.iq :Email**
Course Objectives .8	
Course objectives	**Teaching the student about the components of milk and its products Separating the components of milk different components of milk Estimating the Rennet and the coagulation process Casein enzymes and estimation of rennet strength Types of cheeses Calcium and magnesium estimation in milk structural interactions**
Teaching and learning strategies .9	
strategy	**• Practical lectures inside the laboratory and field visits . • Presentations and video materials . • Group discussions . • Learning based on problem-solving, inquiry, and brainstorming . • Report-based learning-based and project .**
Course Structure .10	

Week	Hours	Required learning outcomes	Unit or topic name	Learning method	Evaluation Method

Discussion and oral questions	• Practical lecture • presentation • group discussion Explanatory	milk	By the end of this lesson, the student will be able to: ✓ What is milk? ✓ Chemical composition of milk ✓ milk sugar	hours 3	the first
Quick test A practical experiment on how to separate Report prepared by	• Practical lecture • presentation • group discussion	milk proteins	By the end of this lesson, the student will be able to: ✓ milk proteins ✓ Casein povidones ✓ Separation of casein proteins	hours 3	the second
Solving practical problems Practical	• Practical lecture • presentation • Solving	Methods for estimating milk proteins	By the end of this lesson, will be able to the student: ✓ Total protein estimation	hours 3	the third
Discussion between students and between them and the course instructor	• Practical lecture • presentation • group discussion	• Leaf chromatography	By the end of this lesson, the student will be able to: ✓ Foundation of the chapter ✓ Sections of leaf chromatography ✓ Its basics ✓ Types of paper used	hours 3	Fourth
nothing	nothing	First monthly exam	nothing	hours 3	Fifth
Solving practical problems	• Practical lecture • presentation • Solving problems	• Estimating the percentage in milk	By the end of this lesson, the student will be able to: ✓ The importance of milk fat in ✓ Methods of	hours 3	Sixth
Discussion between students and between them and the course instructor	• Explanation by the course instructor	• Lactose crystallization and methods of estimating it in milk and cheese	By the end of this lesson, the student will be able to: ✓ lactose sugar ✓ estimate How to lactose in milk and cheese ✓	hours 3	Seventh
Discussion and oral questions	• Practical lecture • presentation • Video presentations	The effect of rennet and salts on the coagulation process	lesson, By the end of this the student will be able to: ✓ rennet ✓ Factors affecting milk coagulation ✓ Salts and their effect on the coagulation	hours 3	Eighth
Discussion and questions oral	• Practical lecture • presentation • Video	Types of casein enzymes and estimation of rennet strength	By the end of this lesson, the student will be able to: ✓ cheeses ✓ Assessing the strength of rennet	hours 3	Ninth
nothing	nothing	Second monthly exam	nothing	hours 3	tenth

Prepare a report explaining the main differences between types	• Practical lecture • presentation • Video presentat ions	Types of cheeses	By the end of this lesson, the student will be able to: ✓ Enzymatic coagulation ✓ acid coagulation ✓ thermal -Acid	hours 3	eleventh
Preparing a detailed report on the scientific trip	• Access to equipme nt, laborator ies, and producti	A scientific trip to one of the factories, plants, or places related to milk, its derivatives, and its products in the governorate.	What is the importance of a scientific trip? Types of equipment and tools specific to each laboratory	hours 3	twelfth
Discussion and oral questions	• Practical lecture • presentation • Video	• Calcium and magnesium estimation in milk	By the end of this lesson, the student will be able to: ✓ The importance of calcium and	hours 3	thirteenth
Discussion and oral questions	• Practical lecture • presentation • Video presentat	structural interactions	By the end of this lesson, the student will be able to: ✓ Enzymatic structural reactions enzymatic Non-	hours 3	fourteenth
Identifying, dismantling, docking, and reporting on the naturalization device	• Practical lecture • presentation • Group discussio n video presentat	Milk homogenization	By the end of this lesson, the student will be able to: What is naturalization? naturalization device Characteristics of homogenized milk The effect of	hours 3	fifteenth

11. Course Evaluation

The grade is distributed out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc.

- 5 marks for attendance, participation, and answering oral questions
- 5 marks for reports and projects
- 5 marks for the first monthly exam
- 5 marks for the second monthly exam
- 20 marks for the final exam
- Total 40 d
- points for the theoretical part 60

12. Learning and teaching resources

(Required textbooks (methodology, if applicable	Dairy Chemistry Book
(references (sources Main	The curriculum prescribed by the subject teacher
Recommended supporting books and references (scientific (...journals, reports	Numerous books, magazines, and reports on milk and its various products Dairy Science, Dairy Research
Electronic references, websites	Research and websites related to milk

Course Name .1	
Date and sugar processing / practical	
Course Code .2	
DTPR317	
Term/Year .3	
2025-Second semester / 2024	
Date this description was prepared .4	
2025/01/07	
Available forms of attendance .5	
laboratory attendance and field visits-In	
Total study hours / Total number of units .6	
Three hours per week (45 hours during the semester) / One and a half units (one and a half units during (the semester	
(urse coordinator (if there is more than one, please mention itName of the co .7	
:Name: Sarah Hashim Musa EmailSarah.Musa@uobasrah.edu.iq	
Course Objectives .8	
• **To enable the student to understand the . economic importance of dates** • **identify the different types To scientifically .of dates and their products** • **Teaching students the methods used in manufacturing different date products and the most important tests and analyses for .them** • **various food products such as date syrup .sweets and jams ,molasses), vinegar, alcohol)** • **Providing staff capable of managing the production lines of date factories in Basra . Governorate**	**Course objectives**
• **Teaching and learning strategies .9**	

• Practical lectures within the laboratory and field visits • Presentations and video materials. • Group discussions. • solving, inquiry, and brainstorming-Learning based on problem. • based learning-based and project-Report.	strategy

Course Structure .10

Evaluation Method	Learning method	Unit or topic name	Required learning outcomes	Hours	Week
Discussion and oral questions	• Practical lecture • group discussion • Video presentations and images • Different types of local dates	Morphological characteristics of different varieties of dates	By the end of this lesson, the student will be able to: : • Identifying different types of local date varieties ✓ Differences between varieties ✓ existing types	hours 3	the first
: Quick test Students take measurements of different varieties of dates and identify their differences	• Practical lecture • group discussion • Video presentations and images • Using tools specific to the lesson	• Weight measurements of the fruit and pit for different varieti	By the end of this lesson, the student will be able to: : ✓ Distinguishing between varieties of dates ✓ Identifying ripe dates from	hours 3	the second
Discussion and oral questions Mathematical calculations based on	• Practical lecture • presentation • Solving problems	Estimating the moisture content of different date varieties	By the end of this lesson, the student will be able to: : ✓ The importance of the moisture .content of dates ✓ How to measure and determine	hours 3	the third
Discussion between students and between them and	• Explanation by the course instructor • Practical experience • Solving	• Estimating the ash content of differe	By the end of this lesson, the student will be able to: : ✓ The importance of .estimating ash ✓ The most important salts	hours 3	Fourth
nothing	nothing	First monthly exam	nothing	hours 3	Fifth
Mathematical calculations based on equations for the production	• Practical lecture • presentation • Solving problems	• Vinegar production	end of this lesson, By the the student will be able to: : ✓ How does fermentation ?occur in dates ✓ The importance of vinegar	hours 3	Sixth

Discussion among students Comparing the results obtained	• Practical lecture • presentation	• Measuring the acidity of different nt types	By the end of this lesson, :the student will be able to ✓ The importance of acidity ✓ Standard acidity percentage ✓ Methods for	hours 3	Seventh
Discussion and oral questions Comparing the juice produced from different	• Practical lecture • presentation • Video presentations	Extracting sugary juice from dates using different heat treatments	By the end of this lesson, :able to the student will be ✓ How to extract sugar juice ✓ Manufacturing processes that sugar juice may undergo	hours 3	Eighth
Discussion and oral questions	• Practical lecture • Distinguishing between types of sugars • Video presentations • Comparison of sugar types in	Identifying the different types of sugars in dates using various methods	By the end of this lesson, :the student will be able to ✓ Identifying the types of sugars in dates ✓ Comparing the types ✓ The eclipse was	hours 3	Ninth
nothing	nothing	Second monthly exam	nothing	hours 3	tenth
Discussion and oral questions	• Practical lecture presentation	Juice clarification and molasses production	By the end of this lesson, :the student will be able to Methods for clarifying juice The importance of juice	hours 3	eleventh
Discussion and oral questions Scientific reports	• lecture Practical • present ation	The production of molasses and the study of its sensory properties	By the end of this lesson, the student :will be able to The most important methods of making	hours 3	twelfth
Preparing a detailed report on the scientific trip	Access to equipment, laboratories, and production lines	A scientific trip to one of factories the or presses dedicated to the	What is the importance of a ?scientific trip Types of equipment and tools specific to each laboratory	hours 3	thirteenth
Discussion and oral questions	• Practical lecture • presentation • Video presentations	Estimation of reducing and total sugars in dates	By the end of this lesson, :the student will be able to Identifying reducing sugars in dates How to estimate it	3 hour	fourteenth
Discussion and oral questions	• Practical lecture • presentation • Group discussion video presentations	Standard specifications Iraqi for commercial dates	By the end of this lesson, :to the student will be able What are the most important approved standard specifications ?for Iraqi dates	hours 3	fifteenth
Course Evaluation .11					

The grade is distributed out of 100 according to the tasks assigned to the student, such as daily .preparation, daily, oral, monthly, written exams, reports, etc **estionsmarks for attendance, participation, and answering oral qu 5** **marks for reports and projects 5** **marks for the first monthly exam 5** **marks for the second monthly exam 5** **marks for the final exam 20** **Total 40 points** **points for the theoretical part 60**	
Learning and teaching resources .12	
on Date Palm Technology , prepared by Dr. Ali Book Sahi, Ministry of Higher Education and -Ahmed Al Scientific Research, University of Basra	**methodology, if) Required textbooks (applicable**
Date and cellulose palm product manufacturing. Arab Federation for Food Industries, General .Secretariat. Iraq. Baghdad. 1985. 339 pp **Akeedi and -Authored by: Dr. Hassan Khaled Hassan Al Moneim Aref Ahmed-Dr. Abdul** **Abdullah, -A series of lectures by Dr. Bayan Yassin Al**	**(Main references (sources**
and dates Numerous books and magazines related to their various products	**Recommended supporting books and (...references (scientific journals, reports**
Research and journals related to dates, for example, the .date palm	**Electronic references, websites**

Course Name .1
Theory Food Processing Plant Management
Course Code .2
PC130
Term/Year .3
the second
Date this description was prepared .4
2023
Available forms of attendance .5
My presence
Total study hours / Total number of units .6

3/2
.(Name of the course coordinator (if there is more than one, mention it .7
:Email Muhammad Ziyara Iskandar .Dr :Name mohammed.eskander@uobasrah.edu.iq
Course Objectives .8

e of Preparing scientific personnel capabl -1 ☐ managing food processing plants The students' ability to manage production -2 ☐ . in food processing plants The students' ability to manage the quality -3 ☐ control department of the food processing .plants The students' ability to manage marketing -4 ☐ .address market demands and The students' ability to choose the optimal -5 ☐ .combination of resources that reduces costs	The subject aims to objectives Course identify the study of the management style of food factories by knowing the modern management style for all departments of food factories such as human resources management, financial management, marketing, tion purchasing, produc management and quality control; and knowing the duties of the manager and his qualities that distinguish him to achieve the factory's goals of producing food products that are highly .competitive in the market

Teaching and learning strategies .9	
Yes, it can be within the axes -1 Fighting poverty .adults and the elderly ,Food efficiency for infants, children -	strategy
Course Structure .10	

Evaluation Method	Learning method	Unit or topic name	Required learning outcomes	Hours	Week

good	My presence	Administration	The concept of management Management jobs Planning in food processing plants in food processing Planning plants For guidance in food processing plants Food safety inspections the boss management in food processing plants Human Resources Management in Food Processing Plants Maintenance Department in the Food Processing Plant department Quality control in food processing plants	2	**1** **2** **3** **4** **5** **6** **7** **9** **10** **11** **12**

Course Evaluation .11

The grade is distributed out of 100 according to the tasks assigned to the student, such as .daily preparation, daily, oral, monthly, written exams, reports, etc

the details		Degree
Exams	Degree	40
of comprehension		4
Participation		4
the audience		2
Total grade		50

Learning and teaching resources .12

Food Processing Plant Management , Tikriti -Al by Dr. Hilan Hammadi and others, 1986	Required textbooks (methodology, if (applicable
Printed lectures by the course instructor	(Main references (sources
	Recommended supporting books and (...references (scientific journals, reports
Yes	Electronic references, websites

and second semesters first ,Description of the fourth stage course

Course description template

Course Name .1	
Practical life technology	
Course Code .2	
g406	
Term/Year .3	
2024-First semester / 2023	
Date this description was prepared .4	
2024/1/30	
Available forms of attendance .5	
laboratories	
Total study hours / Total number of units .6	
hours per week spread over 14 weeks / Number of units: 6 3	
.(Name of the course coordinator (if there is more than one, mention it .7	
:Email raghad.saad@uobasrah.edu.iq	**Raghad Saad Mousa :Name**
Course Objectives .8	
• **isolate Teaching students how to and cultivate microorganisms in the laboratory, use mutagens, estimate biomass, study yeasts**	Course objectives
Teaching and learning strategies .9	
Generating creative ideas, emphasizing the importance of diverse opinions, and promoting teamwork in the .laboratory for students	strategy
Course Structure .10	

Evaluation Method	Learning method	Unit or topic name	Required learning	Hours	Week

				3 hours per week	**14 weeks**
Course Evaluation .11					
The grade is distributed out of 20 according to the tasks assigned to the student, .daily, oral, monthly, written exams, reports, etc ,such as daily preparation					
Learning and teaching resources .12					
Book of Practical Experiments in Biotechnology	Required textbooks (methodology, if (applicable				
	(Main references (sources				
	Recommended supporting books and references (scientific journals,				
	Electronic references, websites				

theoretical course Description of the

Course Name .1
Theory/ Quality Control
Course Code .2
QUCO419
Term/Year .3
2025-2024 / Second semester
description was prepared Date this .4
2025/01/02
Available forms of attendance .5
Attendance inside classrooms
(total) 3.5 Number of study hours (total) / Number of units .6
Two hours per week (30 hours during the semester) / Two units (two units (semester during the
than one name is More (if applicable) Name of the course coordinator .7
:Email Dr. Sherine Fadel Abbas :Name sherenabbas@uobasrah.edu.iq

Course Objectives .8	
Course objectives	• Teaching students the practical aspects of food analysis and control . • Teaching students the basic aspects of food component analysis. • Studying the importance of food quality control • Measurement of food properties . Quality science. quality control
Teaching and learning strategies .9	
strategy	• Theoretical lectures inside classrooms . • Presentations and video materials . • Group discussions . • Learning based on problem -solving, inquiry, and brainstorming .
Course Structure .10	

Week	Hours	Required learning	Unit or topic name	Learning method	Evaluation Method
the first	hours 2	**By the end of this lesson, the student will be able to:** ✓ Explaining the concept of food control and its importance and analysis as a source of food security	**Definition of quality control and quality, the importance of the quality mark , and the tasks of the quality control department.**	• Theoretical lecture • presentation • group discussion	Discussion and oral questions
the second	hours 2	**By the end of this lesson, the student will be able to:** ✓ Classification of production units according to specifications Metrology and Measurement ✓ Distinguish the main differences between types of units in terms of food and adulteration operating requirements. ✓ Identifying the factors that influence the	**Metrology and Measurement Science and its Functions (This (section**	• Theoretical lecture • presentation • group discussion	Report on the most suitable and locally used production units

oral Discussion and questions	Theoretical • lecture presentation • group discussion • Video • presentations	**the color**	**By the end of this lesson, the :to student will be able** ✓ of Clarifying the concept color in food and studying color control in laboratories in terms of the substance's content of natural and artificial .pigments	hours 2	the third
Earthen basin design project	Theoretical • lecture presentation • group discussion • Video • presentations	**viscosity**	**By the end of this lesson, the :student will be able to** ✓ Explaining the scientific basis of the device, how the device works, its components, and its .operating mechanism ✓ classification Food according to food	hours 2	Fourth
nothing	nothing	**First monthly exam**	nothing	hours 2	Fifth
Discussion and oral questions	Theoretical • lecture presentation • group discussion • Video • presentations	**Texture and texture**	**By the end of this lesson, the :student will be able to** ✓ A substance can be identified by its texture and consistency, whether .it is solid or liquid	hours 2	Sixth
Discussion and oral questions	Theoretical • lecture presentation • group discussion • Video • presentations	**(Flavor (taste and aroma**	**By the end of this lesson, the :student will be able to** ✓ Explaining the concept of flavor and taste in food and the . components of food	hours 2	Seventh
Discussion and oral questions	Theoretical • lecture presentation • group • discussi on	**Arbitration tests for quality assessment**	**By the end of this lesson, the student will be able to Conducting tests to evaluate food in terms of product quality and its conformity to .nutritional specifications**	hours 2	Eighth
Discussion and oral questions	Theoretical • lecture presentation • group discussion • Video • presenta	**(Tags (media cards**	**this lesson, the By the end of :student will be able to**	hours 2	Ninth
Discussion and oral questions	Theoretical • lecture presentation • group discussion • Video • presentations	**adulterated food**	**By the end of this lesson, the :student will be able to**	hours 2	tenth
nothing	nothing	**Chapter test**	**Second month exam**	hours 2	eleventh

twelfth	hours 2	**By the end of this lesson, the student will be able to Understanding the most important food preservatives and their impact on food.**	**preservatives**	Theoretical • lecture presentation • group discussion • Video presentations	Discussion and oral questions
thirteenth	hours 2	**By the end of this lesson, the student will be able to Understanding the types of metals and plastics used in food packaging**	**Packaging materials**	Theoretical • lecture presentation • group discussion • Video • presentations	Discussion and oral questions
fourteenth	hours 2	**By the end of this lesson, the student will be able to Understanding the most important food standards and comparing them with the specifications of the**	**Specifications for different foods**	Theoretical • lecture presentation • group discussion • Video • presentations	Discussion and oral questions
fifteenth	hours 2	**By the end of this lesson, the student will be able to The extent to which the food product conforms to standard specifications and main requirements**	**Quality control**	Theoretical • lecture presentation • group discussion • Video • presentations	Discussion and oral questions

Course Evaluation .11

The grade is distributed out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc. participation, and answering oral questions ,marks for attendance 5
marks for reports and projects 5
marks for the first monthly exam 10
marks for the second monthly exam 10
marks for the final exam 30
Total 60 points

esourcesLearning and teaching r .12

Required textbooks (methodology, if (applicable	Quality Control, by Dr. Shimon Korkis Samano 1988
(Main references (sources	food , analysis and control Food components , and testing methods
Recommended supporting books and (...scientific journals, reports) references	A book on quality control by Dr. Muhammad Aishouni Book of Shimon Korkis
Electronic references, websites	https://www.fao.org/fishery/ar

practical course Description of the

Course Name .1

practical/ Quality control

Course Code .2	
QUCO419	
Term/Year .3	
2025-2024 / Second semester	
Date this description was prepared .4	
2025/01/02	
Available forms of attendance .5	
Laboratory attendance and scientific visits	
Total study hours / Total number of units .6	
hours per week (45 hours during the semester) / One and a half units (one Three (and a half units during the semester	
than one name is More (if applicable) Name of the course coordinator .7	
Dr. Sherine Fadel Abbas :Name :Email sherenabbas@uobasrah.edu.iq	
Course Objectives .8	
Course objectives	• Studying the importance of food quality control • quality control . Quality science. Food quality measurement (color , viscosity, texture, and flavor). Adulterated .Sensory evaluation tests .food
Teaching and learning strategies .9	
strategy	• lectures within Practical the laboratory and scientific visits to other college laboratories • . Presentations and video materials • . Group discussions • problem based on -Learning and inquiry, solving,
Course Structure .10	

Evaluation Method	Learning method	Unit or topic name	Required learning	Hours	Week
Discussion and oral questions	• Video presentations and images to learn about the components of most food and the important equipment used in analyzing food	**Microbiological boundaries and biological tests**	**By the end of this lesson, the student will be able to:** ✓ Identifying the most important devices and technologies used in analyzing food components.	hours 3	the first
Quick test: Students will identify the appropriate category for a set of production units mentioned in the questions.	• lecture Practical presentation • group discussion	• sampling	**By the end of this lesson, the student will be able to:** ✓ At the end of the lecture, the student will learn how to measure moisture in food, plant, animal, or fruit whether and vegetable, by determining the components and moisture content of the food using a desiccant device found in food	hours 3	the second
Solving practical problems and preparing a report for the practical part	• Practical lecture presentation • Solving problems	**food additives**	**By the end of this lesson, the student will be able to:** ✓ Understanding the meaning of the incineration process, which is the process of digesting and getting rid of organic matter by burning the food material and keeping the inorganic matter, which is measured by the incineration device at a temperature of 550°C according	hours 3	the third
Discussion among students, between d the students an course instructor , and how to write a report on the practical part.	• Explanation by the course instructor Explanation by the laboratory administration	• Quality control in food processing plants	**By the end of this lesson, the student will be able to:** ✓ Estimating the fat content in food, whether plant or animal, solid or liquid, is done through devices that measure the amount of fat present, such as the Dumas method	hours 3	Fourth
nothing	nothing	**First monthly exam**	nothing	hours 3	Fifth
Solving practical problems and a scientific visit to the central laboratory	• Practical lecture presentation • Solving problems	• Quality control in dairy processing plants	**By the end of this lesson, the student will be able to:** ✓ Estimating the protein content involves knowing the amount of nitrogen in the food, as protein is estimated based on the presence of nitrogen in the food. The protein determination process goes through three stages: the first stage	hours 3	Sixth
Discussion among students and between them and the course instructor or farm in the management case of a field visit Or evaluating the	• Explanation by the course instructor and creation of miniature cages Explanation provided by farm management in	• Fat and oil control tests	**By the end of this lesson, the student will be able to:** ✓ Estimating fibers using devices and chemicals, and calculating them from the equation.	hours 3	Seventh

oral Discussion and questions	Practical lecture • presentation • Video • presentations Review of the • closed culture system in the department's laboratories	**.Estimating the viscosity of food**	**By the end of this lesson, the :student will be able to** By analyzing the ✓ components of the food product and understanding the relationship between time, the density and viscosity of the product can be determined after comparing it to the	hours 3	Eighth
Discussion and oral questions	Practical lecture • presentation • Video • presentations	**Water control tests**	**By the end of this lesson, the :student will be able to** How to conduct water ✓ tests and determine water hardness and acidity	hours 3	Ninth
nothing	nothing	**Second monthly exam**	nothing	hours 3	tenth
A report discussing the importance of food analysis in .terms of acidity	Practical lecture • presentation • Video • presentations Applying the • method within the laboratory by preparing and measuring	**Disadvantages**	**By the end of this lesson, the :student will be able to** Distinguishing between ✓ apparent packaging and product defects and mechanical, genetic, and . physiological defects	hours 3	eleventh
Discussion and oral questions	Practical lecture • presentation • Video • presentations	**adulterated food**	**By the end of this lesson, the :student will be able to** Identifying and ✓ controlling methods of food fraud	hours 3	twelfth
Students were tasked with bringing a food item containing different types of .carotenoids	Practical lecture • presentation • Video • presentations	food poisoning •	**By the end of this lesson, the :student will be able to** Identifying the content of ✓ food in terms of microorganisms and bacteria and the	hours 3	thirteenth
Discussion and oral questions	Practical lecture • presentation • Video • presentations	**Inspection**	**By the end of this lesson, the :student will be able to** Understanding the most ✓ important methods of food inspection, including normal, medium, and .intensive inspection	hours 3	fourteenth

Prepare a report on the course subject.	Practical lecture • presentation • Group • video discussion presentations Answering • student inquiries	**artificial intelligence** Review of practical • experiences in using nce in artificial intellige methods of material control and food analysis	**By the end of this lesson, the student will be able to:** Explaining the concept of ✓ artificial intelligence and its of food applications in the field analysis Identifying the smart ✓ technologies used in.	hours 3	fifteenth

Course Evaluation .11
according to the tasks assigned to the student, The grade is distributed out of 100 marks, such as daily preparation, daily, oral, monthly, written exams, reports, etc. marks for attendance, participation, and answering oral questions 5 marks for reports and projects 5 exam marks for the first monthly 5 marks for the second monthly exam 5 marks for the final exam 20 Total 40 points

Learning and teaching resources .12	
There is a textbook	Required textbooks (methodology, if applicable)
Analysis of food components and testing methods	(Main references (sources
Fundamentals of food analysis and testing methods	Recommended supporting books and (...references (scientific journals, reports
https://www.fao.org/fishery/ar	Electronic references, websites

description template Course

Course Name .1
Department of Food Science, College of Agriculture - University of Basra - Food (1/ Processing - Fourth Stage)
Course Code .2
Term/Year .3

(2024-Chapter One (2023
prepared Date this description was .4
2024-1-31
Available forms of attendance .5
My presence in Hall No. 1
Total study hours / Total number of units .6
units 3 -hours per week (2 hours theory + 3 hours practical) 5
.(mention it ,Name of the course coordinator (if there is more than one .7
Prof. Dr. Wasan Kadhim Abdul Razzaq + Asst. Prof. Dr. Muhammad Ziyara Iskandar :Name
Course Objectives .8

to identify food manufacturing methods for aims products of nutritional, economic and commercial importantly the manufacturing importance, most and preservation of food by different manufacturing methods such as canning, drying, refrigeration and irradiation freezing, in addition to other methods such as salting, pickling and the use .of additives and others	Course objectives
Teaching and learning strategies .9	
of theory and (3) one hour of One hour (2) lesson includes and approved weekly hours is The number of - practical work . weeks 15 distributed over	strategy
Course Structure .10	

Evaluation Method	Learning method	Unit or topic name	Required learning	Hours	Week
Display screen + whiteboard	**Lecture with explanation**	The reality of the food industries in Iraq and the Arab world		**2**	**1**
Display screen + whiteboard	**Lecture with explanation**	Packaging materials		**2**	**2**

Display screen + whiteboard	**Lecture with explanation**	Food preservation by canning		**2**	**3**
Display screen + whiteboard	**Lecture with explanation**	**Food preservation by refrigeration**		**2**	**4**
Display screen + whiteboard	**Lecture with explanation**	**Food preservation by freezing**		**2**	**5**
Display screen + whiteboard	**Lecture with explanation**	**Food preservation by drying methods**		**2**	**6**
Display screen + whiteboard	**Lecture with explanation**	**Food additives**		**2**	**7**
Display screen + whiteboard	**Lecture with explanation**	**Food preservation by irradiation**		**2**	**8**
Display screen + whiteboard	**Lecture with explanation**	Preservation with sugar and the manufacture of syrups, juices		**2**	**9**
Display screen + whiteboard	**Lecture with explanation**	Soft drink industry		**2**	**10**
Display screen + whiteboard	**Lecture with explanation**	**pressure -High food preservation**		**2**	**11**
Display screen + whiteboard	**Lecture with explanation**	**Preserving pickles**		**2**	**12**
Display screen + whiteboard	**Lecture with explanation**	**Preserving dairy products**		**2**	**13**
Display screen + whiteboard	**Lecture with explanation**	**Preserving meat and fish**		**2**	**14**

Display screen + whiteboard	**Lecture with explanation via**	**Preserving various food products during processing**		**2**	**15**

Course Evaluation .11	
according to the tasks assigned to the student, such 100 The grade is distributed out of .as daily preparation, daily, oral, monthly, written exams, reports, etc	
Learning and teaching resources .12	
Hakim -Al Food Manufacturing 1 / Dr. Sadiq Dr. Ali Muhammad Mahdi 1990 +	Required textbooks (methodology, (if applicable
Food Technology / Salah Mahdi and others 2011	(Main references (sources
Food Preservation / Taysir Mahmoud Abu Book, Parts 1, 2, 3, 4, Bakr, Food Industries Jundi-and 5 / by Muhammad Mumtaz Al	Recommended supporting books and references (scientific journals, (...reports
	Electronic references, websites

(Food Processing 1 (Practical :Course Name .1
Course Code .2
001240
2024-2023 / 1 First Semester / Year .3
2024-1-30 : Date this description was prepared .4
person / Weekly-In :Available attendance formats .5
hours / 3 units 3 Total number of study hours / Total number of units .6

(it Name of the course coordinator (if there is more than one, mention .7
:Email Alaa Mohammed Sadkhan :Name alaa.sadkhan@uobasrah.edu.iq
Objectives : To prepare various types of solutions and preservation Course methods for different foods, such as canning, freezing, drying, jam and Fruits, juice and syrup .preserve making, and sugaring and concentration

To learn how to prepare solutions used to preserve certain types of food, as well as to learn about different methods	Course objectives

Teaching and learning strategies .9

During . The lecturing strategy utilizes PowerPoint slides the explanation of the material, the subject matter is discussed with the student, followed by questions about the current topic and its connection to previously covered material. Students who answer correctly are recognized,	strategy

Course Structure .10

Evaluation	Learning	Unit or topic	Required	Hours	Week
Daily quiz, term exam	**Practical lectures**	**Sugar, salt, and acidic solutions**	**Preparation of solutions**	**3**	**1**
Daily quiz, term exam	**Practical lectures**	**the Study of types of devices**	**Methods for measuring the**	**3**	**2**
Daily quiz, term exam	**Practical lectures**	**Refrigeration**	**Methods of food**	**3**	**3**

Daily quiz, term exam	**Practical lectures**	**Freezing**	**Methods of food**	**3**	**4**
Daily quiz, term exam	**Practical lectures**		**Exam on the material**	**3**	**5**
Daily quiz, term exam	**Practical lectures**	**Preservation by drying**	**Methods of food**	**3**	**6**
Daily quiz, term exam	**Practical lectures**	**Preservation by canning**	**Methods of food**	**3**	**7**
Daily quiz, term exam	**Practical lectures**	**Preservation with chemical**	**Methods of food**	**3**	**8**
Daily quiz, term exam	**Practical lectures**	**Methods of manufacturing**	**Jam making**	**3**	**9**
Daily quiz, term exam	**Practical lectures**	**Methods of manufacturing**	**Marmalade making**	**3**	**10**
Daily quiz, term exam	**Practical lectures**	**Making pickles and red pickles**	**Pickling**	**3**	**11**
Daily quiz, term exam	**Practical lectures**	**Methods of manufacturing**	**Juice making**	**3**	**12**
Daily quiz,	**Practical**	**Methods for**	**Estimation of**	**3**	**13**
Daily quiz,	**Practical**		**Second exam**	**3**	**14**
Course Evaluation .11					
(monthly and daily) Exams .7 **degrees of comprehension 3** **Participation .5** **Attendance 2**					

Learning and teaching resources .12	
Required textbooks (methodology, if	
I, de, Zoysa. B, Kirkwood. R., .1 Feachem and E Lindsay-Smith. 1984. Preparation of sugar-salt solutions. Trans R Soc Trop Med Hyg.78(2):260-2. doi: 10.1016/0035-.9203(84)90294-3 **Muhammad Shafiur Rahman. .2 2007. Handbook of Food Preservation. Second Edition. CRC Press, Boca Raton, FL. DOI: 10.1201/9781420017373. ISBN: .ISBN-13: 978-1-57444606-7** **Susan Featherstone. 2015. A .3**	(Main references (sources

Course Name .1
– Department of Food Science –Fourth Stage – Meat and Fish Processing University of Basra – College of Agriculture
Course Code .2
002240
Term/Year .3
(2024-2023) Academic year – Second semester
Date this description was prepared .4
2024-2-6
Available forms of attendance .5
In person in a classroom
Total study hours / Total number of units .6
units 3 -hours 5

.(mention it ,Name of the course coordinator (if there is more than one .7	
Prof. Dr. Alaa .Asst + Shatti-Prof. Dr. Sabah Malik Habib Al :Name **alaa.sadkhan@uobasrah.edu.iq Baydhani-Al Mohammed Sadkhan** sabah.habeeb@uobasrah.edu.i q: Email	
Course Objectives .8	
Identifying the nutritional value of fish -1 and meat and their chemical and physical composition **Studying the changes that occur in fish after -2 fishing** **technologies in preserving Using modern - 3 and processing fish and meat** **Studying and identifying fish products, -4 studying fish microbiology, spoilage, and .control** **Knowledge of the chemical, physical, -5**	Course objectives
Teaching and learning strategies .9	
The course includes (2) hours of theory and (3) hours of practical the number of weekly hours is approved and distributed over -work .weeks 15	strategy
Course Structure .10	

Evaluation Method	Learning method	Unit or topic name	Required learning outcomes	Hours	Week
Quizzes + Monthly Exam	Presentation + Explanation and	Physical composition and chemical structure of fish		2	1
Evaluation Method	Learning method	Analysis of the main components of the fish and a study of pigments		2	2
+ Quizzes Monthly Exam	Presentation + Explanation and	Preserving and processing fish by refrigeration , freezing, and		2	3

Evaluation Method	**Learning method**	**Fish preservation by freezing, smoking, and canning; fish preservation by irradiation, pickling, and preservatives; study of microorganisms in**		**2**	**4**
Quizzes + Monthly Exam	**Presentation + Explanation and commentary on the**	**Identifying fish products and the chemical, physical, and sensory methods used in evaluating fish**		**2**	**5**
Evaluation Method	**Learning method**	**various uses of fish and their remains**		**2**	**6**
Quizzes + Monthly Exam	**Presentation + Explanation and**	**Physical composition and chemical structure For the sacrifice**		**2**	**7**
Evaluation Method	**Learning method**	**Nutritional value of meat**		**2**	**8**
Quizzes + Monthly Exam	**Presentation + Explanation and**	**Changes that occur after the in meat animal's death**		**2**	**9**
Evaluation Method	**Learning method**	**Meat palatability factors**		**2**	**10**
Quizzes + Monthly Exam	**Presentation + Explanation and**	**Meat preservation**		**2**	**11**
Evaluation Method	**Learning method**	**Methods of cooking and preparing meat**		**2**	**12**
Quizzes + Monthly Exam	**Presentation + Explanation and**	**minced meat products**		**2**	**13**

Evaluation Method	**Learning method**	**Microbial contamination of methods meat and of controlling it**		**2**	**14**
Quizzes + Monthly Exam	**Presentation + Explanation and**	**-Manufacturing by , products (gelatin (edible fats ,gum**		**2**	**15**

Course Evaluation .11	
according to the tasks assigned to the student, such as 100 The grade is distributed out of theory + 30 :Grades .daily preparation, daily, oral, monthly, written exams, reports, etc practical = 50 coursework marks 20	
Learning and teaching resources .12	
Ta'i (1987-Ta'i, Munir Aboud Jassim Al-Al Meat and Fish Technology . (	Required textbooks (methodology, if (applicable
Meat .(2000) Majed Bashir , Black [1] Technology Science and Mazen Jamil (1985). Fish ,Hindi [2] Products Technology	(Main references (sources
Ta'i (1992-Ta'i, Munir Aboud Jassim Al-Al Practical Meat and Fish Technology . (	Recommended supporting books and (...references (scientific journals, reports
	Electronic references, websites

Course Name .1
Life Technology/1 Theory + Practical
Course Code .2
001240
Term/Year .3
2024 - First semester / 2023
Date this description was prepared .4
2024/2/5
Available forms of attendance .5
My presence
Total number of study hours .6

3 (Number of Units (Total Theory / 3 Practical 2	
.(Name of the course coordinator (if there is more than one, mention it .7	
:Email **shayma.gddoa@uobasrah.edu.iq**	**Prof. Dr. Shaimaa Dhiab Jadou** :Name
Course Objectives .8	
Living organisms or their extracts are used in developing or improving the production of medicines, food, agricultural crops, and healthcare supplies, and in addressing many environmental agricultural problems. **genetic engineering (genetic engineering) and The use of -2 -**	Course objectives
Teaching and learning strategies .9	
Receiving live lectures from the instructor and using modern learning methods	strategy
Course Structure .10	

Evaluation Method	Learning method	Unit or topic name	Required learning	Hours	Week
Oral questions	My presence	She takes it that Roads microscopic Living Also during Industrial		2	the first
Surprise exam	My presence	Energy metabolism in living organisms under aerobic and anaerobic		2	the second
Oral questions	My presence	Used Development Ways Biotechnology in		2	the third
Oral questions	My presence	solid state fermentations		2	Fourth
Oral questions	My presence	Biotechnology Products Section		2	Fifth

Surprise exam	**My presence**	**Amino acid production**		**2**	**Sixth**
monthly exam	**My presence**	**First month exam**		**2**	**Seventh**
Reports and excerpts	**My presence**			**3**	**15**

Course Evaluation .11
is distributed out of 100 according to the tasks assigned to the student, such as The grade .daily preparation, daily, oral, monthly, written exams, reports, etc
Learning and teaching resources .12

Biotechnology, 1993 ,Ani-Fayez Aziz Al	Required textbooks (methodology, if (applicable
Basil Kamel Dalali, Selected Topics in Biotechnology, 1993	(Main references (sources
D.R.R. C.DUBEY ,Textbook Of 2007 Biotechnology,	Recommended supporting books and (...references (scientific journals, reports
	references, websites Electronic

Course Name .1
Life Technology/2 Theory
Course Code .2
002240
Term/Year .3
2024 - Second semester / 2023
Date this description was prepared .4
2024/2/5
Available forms of attendance .5
My presence
number of study hours Total .6

3 (Number of Units (Total Theory / 3 Practical 2	
.(Name of the course coordinator (if there is more than one, mention it .7	
:Email **shayma.gddoa@uobasrah.edu.iq**	**Prof. Dr. Shaimaa Dhiab Jadou** :Name
Course Objectives .8	
Living organisms or their extracts are used in developing or improving the production of medicines, food, agricultural crops, healthcare supplies, and in addressing many environmental and agricultural problems. **- 2 The use of genetic engineering (genetic engineering), heredity and its applications as genetic engineering depends on controlling genes in a way that allows the appearance of new preferred traits in the**	Course objectives
Teaching and learning strategies .9	
Receiving live lectures from the instructor and using modern learning methods	strategy
Course Structure .10	

Evaluation Method	Learning method	Unit or topic name	Required learning	Hours	Week
Oral questions	My presence	acids production Living from Membership microscopic		2	the first
Surprise exam	My presence	Industrial Fermentations Fermentation		2	the second
Oral questions	My presence	Production technology bread yeast		2	the third
Oral questions	My presence	Vitamin production from microorganisms		2	Fourth
Oral questions	My presence	Antibiotics		2	Fifth

Surprise exam	**My presence**	**Cells and enzymes that are stable**		**2**	**Sixth**
monthly exam	**My presence**	**First month exam**		**2**	**Seventh**

Course Evaluation .11	
The grade is distributed out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc.	
Learning and teaching resources .12	
Ani, Biotechnology, 1993-Fayez Aziz Al	Required textbooks (methodology, if (applicable
Basil Kamel Dalali, Selected Topics in Biotechnology, 1993	(Main references (sources
D.R.R. C.DUBEY ,Textbook Of 2007 Biotechnology,	Recommended supporting books and (...scientific journals, reports) references
	Electronic references, websites

Theoretical Part -Food Processing 2 : Course Name .1
Course Code .2
002240
: Term/ Year .3
2023-Second semester / 2022
: Date this description was prepared .4
2024-First semester 2023
: Available forms of attendance .5
Laboratories My presence in the hall Food Science Department
: Total number of study hours / Total number of units .6
units: 3 hours of theory, number of 2
: (Name of the course coordinator (if there is more than one, please state .7

:Email Dr. Alia Jamil Ali ,uobasrah.edu.iq zena.uons @ Dr. Zeina Kadhim alya.ali@uobasrah.edu.iq esraa.sabah@uobasrah.edu.iq :Email Sabah Adhafa Name: M.M. Israa	
Course Objectives .8	
• To familiarize students with all aspects of food, including its production, marketing, storage, distribution, and consumption. derived from. To maximize the benefits	Course objectives
Teaching and learning strategies .9	
Food manufacturing has helped countries to dispense with importing some foods from abroad, and this has contributed to improving the economic balance, as it regulates the country's trade balance. Food manufacturing encourages other industries such as canning and preservative manufacturing.	strategy
Course Structure .10	
Theoretical Part	

Week	Hours	Required learning	Unit or topic name	Learning method	Evaluation Method

Students participate in the lecture by asking .questions Quiz exam monthly exams	My presence	A brief history of the sugar industry Sugar production from sugarcane Sugar production from sugar beets Chocolate and cocoa industry Chocolate pictures Fats, their types and importance Fat rancidity exam		2 2 2 2 2 2 2 2 2 2 2	the first the second the third Fourth Fifth Sixth Seventh Eighth Ninth tenth eleventh
Course Evaluation .11					
The grade out of 100 is distributed as follows: 50 (Theoretical semester written exam, 30 exam, 2 grades for daily exams, 2 grades distributed as follows: 25 grades for the written .(grades for reports, and 1 grade for tasks assigned to the student					
Learning and teaching resources .12					
Abdul Basit Meryoud (2017). Sugar Sugar Industry Technology Part 1: Raw			(Required textbooks (methodology, if applicable		

Saad Ahmed Saad, Adel Zaki [2] Mohamed, and Mohamed Ali Ahmed Bakheet (1995). Food Industry	(Main references (sources
Food Industries: Fundamentals of .3 Theoretical Part -Food Processing	Recommended supporting books and references (...scientific journals, reports)
.	Electronic references, websites

Course Name .1
(Food analysis (theoretical and practical
Course Code .2
001240
Term/Year .3
First/2024
Date this description was prepared .4
2022
Available forms of attendance .5
in the halls of the College of The theoretical part takes place In person Agriculture, Food Science Department, Section 3, and the practical part
Total study hours / Total number of units .6
units hours, 3.5 3
.(Name of the course coordinator (if there is more than one, mention it .7

Dr. Zeina : Name zena.issa@uobasrah.edu.iq ssaIKadhim : Email	Name: Dr. Sherine Fadel Abbas sheren.abbas@uobasrah.edu.iq

Course Objectives .8

• food analysis The importance of • Studying the components of food, including proteins, carbohydrates, and , fats, vitamins, and minerals .stingmethods of analysis and te	Course objectives

Teaching and learning strategies .9

This science is explained and related to many applied sciences such as chemistry, physics, biology, physiology, crops, economics horticulture, and.	strategy

Course Structure .10

Week	Hours	Required learning outcomes	Unit or topic name	Learning method	Evaluation Method

monthly exam And the jugs Reports from students	**In person at the Faculty of re Agricultu halls, on display screens and the blackboard**	**Preparation -1 processes for food to be and an analyzed overview of Cordex and ISO terminology Spectral -2 analysis Analysis in the -3 field of ultraviolet radiation Infrared -4 analysis using microwave and laser analysis First month -5 exam Flame analysis -6 and atomic absorption Fluorescence -7 and sphorylationpho**	**Explanation of unit requirements**	**3**	**1 2 3 4 5 6 6 7 8 9 11 12 13 14 15**

Course Evaluation .11
The grade is distributed out of 100 according to the tasks assigned to the student, monthly exams, written exams, ,such as daily preparation, daily exams, quizzes .reports, etc
Learning and teaching resources .12

Food Analysis Book	Required textbooks (methodology, if (applicable

Textbook for Food Analysis	(Main references (sources
Analysis of food components and testing methods	Recommended supporting books and scientific journals,) references (reports
Fundamentals of food analysis and testing methods	Electronic references, websites

Course Name .1	
Applications in human nutrition	
Course Code .2	
001240	
Term/Year .3	
2024-First for the year 2023	
Date this description was prepared .4	
2024/2/5	
Available forms of attendance .5	
My presence	
Total study hours / Total number of units .6	
Theory + 3 Practical = 5/3 Units 2	
.(more than one, mention it Name of the course coordinator (if there is .7	
alaa.niamah@uobasrah.edu.iq :Email Prof. Dr. Alaa Karim Naima :Name alia.hashim@uobasrah.edu.iq :Email ,Dr. Alia Ziyara Hashim	
Course Objectives .8	
• **to that are linked foods Identifying certain diseases** • **with It is related that Diseases on identification food**	Course objectives
Teaching and learning strategies .9	

Receiving live lectures from the instructor **Using modern learning methods**	strategy

Course Structure .10

Evaluation Method	Learning method	Unit or topic name	Required learning	Hours	Week
Oral questions	**My presence**	**Important nutritional and terms definitions**		**2**	**the first**
Surprise	**My**	**Nutrition for diabetic**		**2**	**the**
Oral	**My**	**The relationship between**		**2**	**the**
Oral	**My**	**-malnutrition Some**	**Explanation of unit requirements**	**2**	**Fourth**
Oral	**My**	**Obesity: Types and**		**2**	**Fifth**
Surprise	**My**	**Protein deficiency diseases**		**2**	**Sixth**
monthly exam	**My**	**First month exam**		**2**	**Seventh**
monthly	My	**Nutrition at different**		**2**	**Eighth**
monthly	My	**Infant and toddler**		**2**	**Ninth**
monthly	My	**aged -Nutrition for school**		**2**	**tenth**
Kozat Reports	**My presence**	**Second month exam**		**2**	**eleventh**

Course Evaluation .11

The grade is distributed out of 100 according to the tasks assigned to the student, such as daily .preparation, daily, oral, monthly, written exams, reports, etc

resources Learning and teaching .12

Food and nutrition	(Required textbooks (methodology, if applicable
. conditions Medical in Nutrition (Book)	(Main references (sources
Food, Nutrition, and Diet Therapy, 8th ed. W. B. Saunders	Recommended supporting books and references (...scientific journals, reports)
therapeutic nutrition	Electronic references, websites

: Course Name .1

Quality control
: Course code .2
002240
2024-2023 : Term/Year .3
2022/2023 semesterSecond
: Date this description was prepared .4
2022
: Available forms of attendance .5
/ Department of Food Science/ My attendance in the halls of the College of Agriculture Section 3
1 / 3 : Total study hours / Total unit hours .6
hours, units 3.5 3
.(Name of the course coordinator (if there is more than one, mention it .7
Name: Prof. Dr. Diaa Faleh Abdullah **sheren.abbas@uobasrah.edu.iq** :Email Shireen Fadel Abbas :Name sara.musa@uobasrah.edu.iq Name: Sarah Hashem Moussa
Course Objectives .8

The student's knowledge of the practical principles of the basic subject of quality control, the extent to which the subject relates ✓	Course objectives
Teaching and learning strategies .9	
The practical section of the Quality Control course aims to develop the student's practical experience and connect it to other areas. **Along with the theoretical information the student possesses, and consolidating the receives theoretical foundations that the student .** **that would benefit the student experiences were selected Practical.** **In cheating and methods of detecting it**	strategy
Course Structure .10	

Evaluation Method	Learning method	Unit or topic name	Required learning outcomes	Hours	Week

Laboratory experiments and screen presentations for lectures Assessment during practical laboratory experiments, evaluation of the student's professional competence during written exams, reports, and quizzes.	Quality, quality standards, and quality marks Measurement - and measurements Defects, defect assessment, and sources of pollution Chemical and microbial food poisoning from	Knowledge and understanding, brainstorming and mental skills, professional and scientific skills, and general skills	2	15
	Knowledge 15.3 and understanding, brainstorming and mental skills, professional and scientific skills, and general skills Quality, quality standards, and quality marks Measurement - and measurements defect ,Defects assessment, and sources of pollution Chemical and microbial food poisoning from food additives pollutants Water Inspection	Knowledge and understanding, brainstorming and ,mental skills professional and scientific skills and skills	3	12
Course Evaluation .11				
such as ,The grade is distributed out of 100 according to the tasks assigned to the student .daily preparation, daily, oral, monthly, written exams, reports, etc				
Learning and teaching resources .12				
Fundamentals of Quality Control	(Required textbooks (methodology, if applicable			

quality The textbook for the subject of control	(Main references (sources
Standard specifications for food quality and nutrition	Recommended supporting books and references (...scientific journals, reports)
Food Quality Control and Food Safety Book	Electronic references, websites

Course Name .1
Technology/1 Theory Life
Course Code .2
001240
Term/Year .3
2024 - First semester / 2023
Date this description was prepared .4
2024/2/28
Available forms of attendance .5
My presence
Total number of study hours .6
3 (Number of Units (Total Theory / 3 Practical 2
.(Name of the course coordinator (if there is more than one, mention it .7
:Email **Prof. Dr. Sarmad Ghazi Mohammed** :Name
Course Objectives .8

The use of living organisms or their products in developing or improving the production of food, medicines, therapeutic nutrition and food crops . **genetic engineering and heredity and their in the production of genetically modified foods**	**- 1** **The use of -2 -** **applications**
Course objectives	

Teaching and learning strategies .9	
Receiving live lectures from the instructor using modern teaching aids	strategy

Course Structure .10					
Evaluation Method	Learning method	or topic name Unit	Required learning	Hours	Week
Oral questions	My presence	What you should know about life technology		2	the first
Surprise exam	My presence	Basic sciences of biotechnology and its branches		2	the second
Oral questions	My presence	Introduction to Biotechnology		2	the third
Oral questions	My presence	Industrial biotechnology		2	Fourth
Oral questions	My presence	electrical migration		2	Fifth
Surprise exam	My presence	Discussion of previous lectures		2	Sixth
monthly exam	My presence	exam First month		2	Seventh

Course Evaluation .11
The grade is distributed out of 100 according to the tasks assigned to the student, such as .daily preparation, daily, oral, monthly, written exams, reports, etc

Learning and teaching resources .12	
Ani, Biotechnology, 1993-Fayez Aziz Al	Required textbooks (methodology, if (applicable
Basil Kamel Dalali, Selected Topics in Biotechnology, 1993	(Main references (sources
D.R.R. C.DUBEY ,Textbook Of 2007 Biotechnology	Recommended supporting books and (references (scientific journals, reports

https://www.labster.com/course-packages/biotechnology	Electronic references, websites

Course Name .1
Life Technology/2 Theory
Course Code .2
002240
Term/Year .3
2024 - Second semester / 2023
Date this description was prepared .4
28/2/2024
Available forms of attendance .5
My presence
Total number of study hours .6
3 (Number of Units (Total Theory / 3 Practical 2
.(Name of the course coordinator (if there is more than one, mention it .7
:Email **Shawi-Prof. Dr. Sarmad Ghazi Al** :Name **sarmad.mohammed@uobasrah.edu.iq**
Course Objectives .8

The use of living organisms or their products in developing or improving the production of food, medicines, therapeutic nutrition and food crops. **- 1** **genetic engineering and heredity and their genetically modified foods and genetically modified organisms that are involved in the production of foods with health, nutritional and economic benefits** **The use of -2 applications in the production of** **-**	objectives Course

Teaching and learning strategies .9

Receiving live lectures from the instructor using modern teaching aids	strategy

Course Structure .10

Evaluation Method	Learning method	Unit or topic name	Required learning	Hours	Week
Oral questions	My presence	Introduction to prefixes		2	the first
Surprise exam	My presence	Types of prefixes		2	the second
Oral questions	My presence	The chain reaction of the polymerase enzyme		2	the third
Oral questions	My presence	Probiotics and their types		2	Fourth
Oral questions	My presence	Standards for probiotics and their uses		2	Fifth
Surprise exam	My presence	cell protein-single		2	Sixth
monthly exam	My presence	First month exam		2	Seventh

Evaluation Course .11

The grade is distributed out of 100 according to the tasks assigned to the student, such as .daily preparation, daily, oral, monthly, written exams, reports, etc

Learning and teaching resources .12

Ani, Biotechnology, 1993-Fayez Aziz Al	Required textbooks (methodology, if (applicable
Basil Kamel Dalali, Selected Topics in Biotechnology, 1993	(Main references (sources
D.R.R. C.DUBEY ,Textbook Of 2007 Biotechnology,	Recommended supporting books and (...references (scientific journals, reports
https://www.labster.com/course-packages/biotechnology	Electronic references, websites

Course description template

Course Name .1	
Dairy products theory	
Course Code .2	
002240	
Term/Year .3	
2024- 2023 Chapter Two	
Date this description was prepared .4	
2024/2/15	
Available forms of attendance .5	
hall	
Total number of study hours / Total number of units .6	
hours for 14 weeks, 4 units 2	
(of the course coordinator (if there is more than one, mention it Name .7	
Dr. Najla Hussein Sabr :Name **Najla.saper @** :Email **@uobasrah.edu.iq**	
: Course Objectives .8	
Course objectives	• **Understanding the chemical composition of milk .** • **A study of the variation in milk composition .** • **Following correct and scientific methods in raising dairy cattle ensuring healthy conditions and in milk production .** • **Understanding the basics of different dairy manufacturing products**
Teaching and learning strategies .9	

The dairy products course is one of the important courses in the Food Science Department, as it guides students on the most important principles of dairy, composition of dairy products to help them understand the explaining the chemical benefits of these products to humans and the environment how to avoid the risks of	strategy

Course Structure .10

Evaluation Method	Learning method	Unit or topic name	Required learning	Hours	Week
Daily , questions discussions, and quizzes	PowerPoint presentation on screen	and date definition cheese	Knowledge and understanding, brainstorming and mental skills, professional and scientific skills, and	2	1
_	PowerPoint	industry steps Cheese cheese classification	Knowledge and understanding, brainstorming and mental skills, professional and scientific skills, and	2	2
_	PowerPoint	and his milk In relationship manufacturing	_	2	3
_	PowerPoint	Most important Factors The Influential	_	2	4
_	PowerPoint	Milk unsuitable cheese for making	_	2	5
_	PowerPoint	The components of milk and their relationship to cheese making	_	2	6
_	PowerPoint	Methods of making cheese	_	2	7
_	PowerPoint	Materials and raw materials added in cheese making	_	2	8
_	PowerPoint	Types of prefixes	_	2	9

–	**PowerPoint**	**Basics of curd making**	-	**2**	**10**
		Steps in making dry cheese		**2**	**11**
-	-	**Cheese ripening and cooking**	-	**2**	**12**

Course Evaluation .11

The grade is distributed out of 100 according to the tasks assigned to the preparation, daily, oral, monthly, written exams, reports, student, such as daily

Learning and teaching resources .12

Cheese and Fermented Dairy Production / Mottaleb and Riad -Dr. Lotfi Abdel	Required textbooks (methodology, (if applicable
dairy chemistry and technology	(sources) Main references
Principles of dairy chemistry	Recommended supporting books and references (scientific journals,
products Research on dairy	Electronic references, websites