



**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 2026



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 Vision .1

The College of Agriculture strives for excellence in teaching agricultural sciences and their applications to prepare specialized and qualified agricultural personnel to meet the requirements of development plans and the needs of the labor market, aiming to become one

Program Message .2

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

Program Objectives .3

Academic Program Objectives

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

accreditation Program .4

?Is the program accredited? And by which body
Seeking accreditation

Other external influences .5

Is there a sponsor for the program
are available for support Opportunities

Program Structure .6				
*comments	Percentage	Study unit	Number of courses	Program structure
	%9	16	8	Institutional requirements
	%30	49.5	16	College requirements
	%61	98.5	33	Department requirements
				Summer training
				Other

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

Description Program .7				
Credit Hours		Course name	Course code	Year / Level
practical	theoretical			
				/ First semester First year
3	2	General	Z 502	
3	2	Principles of	B 103	
-	2	Principles of	Z 511	
-	2	mathematics	Z 501	
-	2	human rights	Z 513	
-	1	English language	Z 504	
	-	engineering	Z 516	
3	2	Quantitative Chemistry	G 102	Second semester First / year
3	2	Principles of	Th 101	
3	2	Principles of food	G 104	
3	2	Principles of	106 G	
3	2	count	Z 517	
-	1	English Language	Z 524	

2	1	Computer	Z 505	/ First semester Second year
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	Principles of Pan	G 201	
3	2	Design and	Z 518	
3	1	Computer	Z 506	
2	2	Principles of	Z 512	
				/ Second semester Second year
3	2	Physical	G 202	
3	2	biochemistry	Z 510	
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	
				/ First semester Third year
3	2	Food Chemistry	G 301	
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	G 306	
3	2	Microscopic dairy	G 308	

3	2	Metabolic	G 310	
3	2	Liquid dairy	G 312	
2	1	Computer Applications 3	Z 507	
				/ First semester Fourth year
3	2	Food	G 401	
3	2	Dairy production	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	Dairy production	G 404	
3	2	Life Technology	G 406	
3	2	Quality control	G 408	
3	2	Meat processing	G 410	
3	-	Graduation	Z 526	

outcomes of the program Expected learning .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 skills solving-problem Enabling the student to -A4 understand the discourse on food science and technology and equipping food
Skills	
Learning Outcomes Statement 2 Other skills related to employability and personal (development computers and display screens to clarify Using -D1 lectures for students in order to increase the student's 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 eaching students how to engage in objective thinking T .and analysis Providing students with the course fundamentals and - 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 Providing students with the - 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 raduation research discussion testsG	Learning Outcomes 4 Practical training for each course Developing creative thinking in students and in individuals Knowing the new - developments that occur and affect the course material
Learning Outcomes Statement 5 Physical exercises in some lessons Written and oral exams Staying informed about current events -	Learning Outcomes 5

Teaching and learning strategies .9
methods of teaching and learning adopted in the implementation of the Strategies and .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 * .iscussions within the hallD *

Assessment Methods .10
.Implementing it in all stages of the program in general Physical exercises in some lessons - oral exams Written and 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	
lecturer	angel			private	general
	16			✓	
	13			✓	
	14			✓	
	2			✓	
	7				✓

Professional Development
Orienting new faculty members
time faculty -time and part-Briefly describe the process used to guide new, visiting, full members at the institutional and departmental levels
Professional development of faculty members
and professional development 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
the regulations related to enrollment in the college or institute, whether Establishing) (central admission or other mentioned Centralized admissions first and second semesters The system in the department is divided into- and at the beginning of each semester, the ,All students are exposed to the same material

Key sources of information about the program .13
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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	Th 101	First /2024
	✓	✓	✓			✓			✓	✓	✓	essential	Principles of food industries	G 104	First /2024
✓	✓	✓	✓			✓			✓	✓	✓	essential	Principles of Engineering Workshons	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 chemistrv	G 302	Third/2024
✓	✓	✓	✓		✓			✓	✓	✓		essential	Bread and pastries	G 304	Third/2024
✓	✓	✓						✓	✓	✓		essential	genetic engineering	G 306	Third/2024
✓		✓					✓	✓	✓	✓		essential	Microscopic dairv	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 •

Course description for the first stage, first and second semesters

MODULE DESCRIPTION FORM

Course description template

Module Information				
Course Information				
Module Title Course Title	Analytical Chemistry		Module Delivery the teaching / Method of presenting educational unit	
Module Type Course type	essential		theoretical ☒ a lecture ☐ laboratory ☐ problem solving - Practical ☐ practical ☐ Episodes - Discussion ☐	
Module Code Course code	ANCH121			
ECTS Credits	6			
SWL (hr/sem) Student's academic hours) workload (semester /	150			
Module Level Course level		UGx 11 1	Semester of Delivery semester	1
Administering Department Section		Food Science	College College	College of Agriculture
Module Leader Course Instructor	Elham Kazem Nasser		e-mail mail-e	Elham.nasser@uobasrah.edu.iq
Module Leader's Acad. Title Scientific title		teacher	Module Leader's Qualification Certificate	doctor
Module Tutor The professor in charge of the	Nawal Khaled Zabin		e-mail	n

course			
Peer Reviewer Name Scientific Reviewer's Name		e-mail	
ApprovalScientific Committee the date Date		Version Number	

Relation with other Modules			
Relationship with other study subjects			
Prerequisite module Required prerequisite course unit	None	Semester semester	
Co-requisites module synchronous study unit	None	Semester semester	

Module Aims, Learning Outcomes and Indicative Contents	
Course objectives, learning outcomes, and guidance content	
Module Objectives Course Objectives	Building the impact of analytical chemistry and types of quantitative -1 . analysis methods .Using all analytical chemistry tools -2 errors in chemical analysis, diagnosing their type, reducing their Detecting -3 .impact in the laboratory, and correcting them statistically
Module Learning Outcomes Learning outcomes for the subject	:The student will be able to analytical chemistry and the steps of Explanation of the basics of -1 analysis Comparison of qualitative and quantitative analysis -2 Knowledge of acids and bases, their theories, and interpretation of -3 their behavior Explanation of volumetric analysis and weight calculation -4 essing methods of analysis using titrationExpr -5
Indicative Contents Main topics of the	:Scope of analytical chemistry Searching for advanced methods to measure the chemical composition of -1

course	the substances that natural and synthetic materials using techniques to identify .may be present in a material, and to determine their quantities accurately Quantitative Analysis: This includes an explanation of the technique that -2 uses mathematical and statistical modeling, measurement, and research to .d the behavior of acids and basesunderstan Chemical equilibrium: This refers to the state of a system in which the -3 concentration of reactants and the concentration of products do not change .over time
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Learning and Teaching Strategies strategies Learning and teaching	
Strategies Methods or work plan	The modern teaching strategy includes achieving learning objectives in general and teaching chemical concepts in particular, as well as the difficulties that students face in understanding and acquiring chemical concepts, and addressing the difficulties by defining chemical concepts and .helping students acquire the correct chemical concepts

Student Workload (SWL) . weeks15 The student's academic workload is calculated for			
Structured SWL (h/sem) / hours) Student's structured workload (semester	93	Structured SWL (h/w) load Student's regular weekly study	2
Unstructured SWL (h/sem) academic unstructured Student's (semester / hours) workload	57	Unstructured SWL (h/w) for the student load Irregular weekly study	1.3
Total SWL (h/sem) during the semester workload academic	150		

Module Evaluation Course Material Assessment				
	NumberTime/	Weight (Marks)	Week Due	Relevant Learning

As			Grade	Delivery) (week	Relevant Outcome educational output
Formative assessment Formative assessment	short Quizzes (tests	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Homework assignments	2	20% (20)	2 and 12	LO #3, #4 and #6, #7
	. LabProjects /				
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment Final evaluation	Exam Midterm	2hr	10% (10)	7	LO #1 - #7
	Exam Final	3hr	50% (50)	16	All
(final evaluation) Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) Weekly theoretical curriculum	
Week	Material Covered
Week 1	to Analytical Chemistry and Gravimetric Equivalent Measurement Introduction
Week 2	Calculations -Solutions -Volumetric analysis
Week 3	(Methods of expressing concentration (molarity, standard, normal, weight and volume ratio
Week 4	Acids and bases
Week 5	degree of ionization -pH
Week 6	First exam
Week 7	Types of salts -Hydrolysis of salts
Week 8	guides -Buffering solutions
Week 9	Determining the equivalence point
Week 10	Redox corrections
Week 11	Volumetric analysis processes
Week 12	corrections Types of
Week 13	Gravimetric coefficient -Gravimetric analysis
Week 14	sedimentation-Post -Sedimentation reagents
Week 15	Second exam
Week 16	review

Delivery Plan (Weekly Lab. Syllabus)

Weekly laboratory schedule

Week	Material Covered
Week 1	and identification of glassware and equipment in analytical chemistry safety laboratories
Week 2	Determining the concentration of hydrochloric acid using a standard sodium carbonate solution
Week 3	hydroxide solution Preparation and titration of sodium
Week 4	the carbonate and bicarbonate mixture Estimation of
Week 5	First test
Week 6	the acidity of vinegar Estimating
Week 7	reactions: Moore and Vollhardt method Precipitation

Learning and Teaching Resources

resources Learning and teaching

	Text Titles	Available in the Library? Available in the library
Required Texts Required books	Chemistry Analytical Fundamentals of Analytical Chemistry Principles of Analytical Chemistry	Yes
Recommended Texts Recommended books	Analytical Chemistry Modern	No
Websites Electronic sources		

Grading Scheme

Grade chart

Group	Grade	Appreciation	Marks %	Definition
Success Group (50 - 100) Passing grade	A - Excellent	privilege	90 - 100	Outstanding Performance Performance Outstanding / Excellent
	B - Very Good	very good	80 - 89	Above average with some errors Above average with some errors
	C - Good	good	70 - 79	Sound works with notable errors Good work with some noticeable errors
	D - Satisfactory	middle	60-69	Fair but with major shortcomings Acceptable, but it suffers from significant shortcomings
	E - Sufficient	acceptable	50-59	Work meets minimum criteria

				.The work meets minimum standards
Fail Group Failure (0 – 49) grade	FX – Fail	under) Precipitate (processing	(45-49)	More work required but credit awarded More work is needed, but accreditation .has been granted
	F – Fail	Precipitate	(0-44)	Considerable amount of work required It requires a large amount of work

or down to the nearest whole mark will be rounded up 0.5 Marks with decimal places greater than or less than : Note
The university has a .(54 will be rounded up to of 54.4 while a mark , 55 will be rounded up to of 54.5 e.g., a mark)
so the only adjustment to marks awarded by the original , (" failure-near ") failure-rpolicy against exceeding nea
.invigilator will be the automatic rounding described above

MODULE DESCRIPTION FORM

Course description template

Module Information				
Course Information				
Module Title Course Title	Principles of Pan / Theory		Module Delivery teaching the / Method of presenting educational unit	
Module Type Course type	essential		theoretical ☒ a lecture ☐ laboratory ☐ problem solving - Practical ☐ practical ☐ Episodes - Discussion ☐	
Module Code Course code	DAIR212			
ECTS Credits	7			
SWL (hr/sem) Student's academic hours) workload (semester /	175			
Module Level Course level		UGx 11 1	Semester of Delivery semester	2
Administering Department Section		Food Science	College College	College of Agriculture
Module Leader Course Instructor	Elham Kazem Nasser		e-mail mail-e	elham.nasser@uobasrah.edu.iq

Module Leader's Acad. Title Scientific title	teacher	Module Leader's Qualification Certificate	PhD
Module Tutor The professor in charge of the course	Nawal Khaled Zabin	e-mail	
Peer Reviewer Name Scientific Reviewer's Name		e-mail	
ApprovalScientific Committee the date Date		Version Number	

Relation with other Modules Relationship with other study subjects			
Prerequisite module Required prerequisite course unit	None	Semester semester	
Co-requisites module synchronous study unit	None	Semester semester	

Module Aims, Learning Outcomes and Indicative Contents Course objectives, learning outcomes, and guidance content	
Module Objectives Course Objectives	• . about the chemical composition of milk Teaching students • .the composition of milk the factors that affect Teaching students • .methods of preserving milk Teaching students • .Teaching students how to handle milk • Teaching students how to manufacture various dairy products such as • .butter, cream, cheese, and yogurt from milk

Module Learning Outcomes Learning outcomes for the subject	:The student will be able to . of milk composition Explanation of the concept ✓ . for receiving and handling milk Defining the main objectives ✓ of milk obtained from different types between the types Distinguishing ✓ .and their areas of application of ruminants . of the dairy products industry Describe the development ✓ of dairy products that are made Identifying the most important types ✓ . from milk milk suppliers and owners of weenUnderstanding the relationship bet ✓ . dairy processing plants in dairy sector Identifying the economic and social contributions of the countries
Indicative Contents Main topics of the course	

Learning and Teaching Strategies strategies Learning and teaching	
Strategies Methods or work plan	. Theoretical lectures inside classrooms • . Presentations and video materials • . Group discussions • . solving, inquiry, and brainstorming-Learning based on problem • based learning -project and based

Student Workload (SWL) . weeks15 The student's academic workload is calculated for			
Structured SWL (h/sem) / hours) Student's structured workload (semester	48	Structured SWL (h/w) load Student's regular weekly study	
Unstructured SWL (h/sem) academic unstructured Student's (semester / hours) workload	127	Unstructured SWL (h/w) load for the student Irregular weekly study	
Total SWL (h/sem) during the semester workload academic	175		

Module Evaluation					
Course Material Assessment					
As		NumberTime/	Weight (Marks) Grade	Week Due Delivery) (week	Relevant Learning Relevant Outcome educational output
Formative assessment Formative assessment	short Quizzes ((tests	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Homework assignments	2	20% (20)	2 and 12	LO #3, #4 and #6, #7
	. LabProjects /				
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment Final evaluation	Exam Midterm	2hr	10% (10)	7	LO #1 - #7
	Exam Final	3hr	50% (50)	16	All
(final evaluation) Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
Weekly theoretical curriculum	
Week	Material Covered
Week 1	Definition of milk and the factors affecting it
Week 2	Physical state of milk components
Week 3	Chemical composition of milk
Week 4	processing in dairy plants Milk preparation and
Week 5	Factors causing milk spoilage
Week 6	milk adulteration
Week 7	The most important diseases transmitted through milk
Week 8	First month exam
Week 9	Dairy products industry
Week 10	Milk sorting and cream production
Week 11	Yogurt production
Week 12	cheese making
Week 13	Methods of manufacturing powdered milk

Week 14	Butter production
Week 15	Second month exam
Week 16	

Delivery Plan (Weekly Lab. Syllabus) Weekly laboratory schedule	
Week	Material Covered
Week 1	About dairy science Overview
Week 2	milk samples
Week 3	Sensory examinations and milk evaluation
Week 4	Milk acidity
Week 5	First monthly exam
Week 6	Estimating the percentage of milk fat
Week 7	Chemical tests of milk
8Week	adulteration milk
9Week	Fermented dairy production
10Week	Second monthly exam
11Week	Milk ice cream

Learning and Teaching Resources Learning and teaching resources		
	Text Titles	Available in the Library? Available in the library
Required Texts Required books	(textbook (Liquid Milk The	Yes
Recommended Texts Recommended books	Dairy Science and Technology, Second Edition	No
Websites Electronic sources	Fundamentals of Dairy Chemistry Journal of Dairy Science	

Grading Scheme Grade chart				
Group	Grade	Appreciation	Marks %	Definition

Success Group (50 - 100) Passing grade	A - Excellent	privilege	90 - 100	Outstanding Performance Outstanding Performance / Excellent
	B - Very Good	very good	80 - 89	Above average with some errors with some errors Above average
	C - Good	good	70 - 79	Sound works with notable errors Good work with some noticeable errors
	D - Satisfactory	middle	60-69	Fair but with major shortcomings Acceptable, but it suffers from significant .shortcomings
	E - Sufficient	acceptable	50-59	Work meets minimum criteria .The work meets minimum standards
Fail Group Failure (0 – 49) grade	FX – Fail	under) Precipitate (processing	(45-49)	More work required but credit awarded More work is needed, but accreditation .granted has been
	F – Fail	Precipitate	(0-44)	Considerable amount of work required It requires a large amount of work

or down to the nearest whole mark will be rounded up 0.5 Marks with decimal places greater than or less than : Note
The university has a .(54 will be rounded up to of 54.4 while a mark , 55 will be rounded up to of 54.5 e.g., a mark)
so the only adjustment to marks awarded by the original , (" failure-near ") failure-policy against exceeding near
.nding described aboveinvigilator will be the automatic rou

MODULE DESCRIPTION FORM

Course description template

Module Information		
Course Information		
Module Title	Principles of Industries	Module Delivery
Module Type	Core	☒ Theory ☒ Lecture ☒ Lab ☐ Tutorial ☐ Practical
Module Code	FOIN131	
SWL (hr/sem)	150	

			☐ Seminar
Module Level	UGx11 1	Semester of Delivery	2
Administering Department	Food science	College	Agriculture
Module Leader	<i>Lina Samir Mohammed</i>	e-mail	lina.mohammed@uobasrah.edu.iq
Module Leader's Acad. Title	lecturer	Module Leader's Qualification	Ph.D.
Module Tutor	<i>Lina Samir Mohammed</i>	e-mail	lina.mohammed@uobasrah.edu.iq
Peer Reviewer Name	Name	e-mail	Email
Scientific Committee Approval Date		Version Number	1.0

Relation with other Modules

Relationship with other study subjects

Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents

Course objectives, learning outcomes, and guidance content

Module Objectives Course Objectives	Studying methods of food preservation• Studying the advantages and disadvantages of each preservation method• each method on the type of food Studying the effect of• Raw materials are subjected to manufacturing processes with the aim of • .transforming them into materials suitable for human consumption Studying food additives, their types, and their functions• ood spoilageStudying the causes of f•
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Module Learning Outcomes Learning outcomes for the subject	Graduates of the department are awarded a Bachelor of Science in Food Science : degree and acquire the following skills The ability to understand food chemistry1- learn and bear responsibility The ability to2- The ability to communicate3- The ability to apply skills in food science4- The ability to interact with other disciplines to serve them5-
Indicative Contents Guideline Contents	: The guidance content includes the following The food industry is a crucial and fundamental topic due to its direct link to human health. Food processing began as individual practices for food preservation from time to time, an integral part preservation. The -self of humanity's struggle for survival and process of manufacturing and preserving various foods until they reach the consumer safely is of paramount importance. Several methods of food preservation have been studied, such as drying, ing, to extend shelf life, canning, freezing, refrigeration, and smok facilitate transportation, and make food available out of season. The causes of food spoilage and the role of food additives in this .process have also been addressed

Learning and Teaching Strategies	
strategies Learning and teaching	
Strategies	

Student Workload (SWL)			
.The student's academic workload is calculated for 15 weeks			
Structured SWL (h/sem)		Structured SWL (h/w)	
Regular academic workload for the student during the semester	109	Student's regular weekly study load	7

Unstructured SWL (h/sem) Irregular student workload during the semester	91	Unstructured SWL (h/w) Irregular weekly study load for the student	6
Total SWL (h/sem) The student's total academic workload during the semester	200		

Module Evaluation					
Material Assessment Course					
As		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
Weekly theoretical curriculum	
Week	Material Covered
Week 1	The importance of food industries
Week 2	Food preservation methods
Week 3	Vinegar production
Week 4	yeasts

Week 5	Juice making
Week 6	Food spoilage
Week 7	Food additives, their types and functions
Week 8	Tea production
Week 9	making Jam
Week 10	Meat product manufacturing
Week 11	cheese industry
Week 12	Nutritional ingredients
Week 13	bread making
Week 14	Vitamins and minerals
Week 15	Tomato product manufacturing
Week 16	The exam

Delivery Plan (Weekly Lab. Syllabus)

laboratory schedule Weekly

Week	Material Covered
Week 1	Laboratory 1: Preparation of solutions and methods of measuring them
Week 2	Lab 2: Steps for preparing ketchup and tomato paste
Week 3	Lab 3: Making jelly, jam, and marmalade
Week 4	Cake Making Lab 4: Bread and
Week 5	Laboratory 5: Date Syrup Production
Week 6	Laboratory 6: Pickling
Week 7	Laboratory 7: Juice Making
Week 8	Laboratory 8: Food preservation by natural drying
Week 9	Laboratory 9: Food Preservation by Industrial Drying
Week 10	Laboratory 10: Food Preservation by Lactic Fermentation
Week 11	Laboratory 11: Food Preservation by Acetic Fermentation
Week 12	Laboratory 12: Food preservation by alcoholic fermentation
Week 13	Laboratory 13: Food Preservation by Pickling

Week 14	Laboratory 14: Food Preservation by Salting
Week 15	Preparatory week before the final exam
Week 16	Final exam

Learning and Teaching Resources		
Learning and teaching resources		
	Text	Available in the Library?
Required Texts	[1] Fundamentals of general chemistry (2) Food manufacturing	Yes
Recommended Texts	Al-Aswad, Majid Bashir et al. (1993). Principles of the food industry. House of Books for Printing and Publishing, Mosul. P 320 .	Yes
Websites		

Grading Scheme				
Grade chart				
Group	Grade	Appreciation	Marks %	Definition
Success Group (50 - 100)	A - Excellent	privilege	90 - 100	Outstanding performance
	B - Very Good	very good	80 - 89	Above average with some errors
	C - Good	good	70 - 79	Good work with some noticeable errors
	D - Satisfactory	middle	60-69	.Acceptable, but with major flaws

	E - Sufficient	acceptable	50-59	.The work meets minimum standards
Fail Group (0 – 49)	FX – Fail	Sediment (under processing)	(45-49)	More work is needed, but .appreciation has been granted
	F – Fail	Precipitate	(0-44)	A great deal of work is required

Note: Decimal marks greater than or less than 0.5 will be rounded up or down to the nearest whole mark (e.g., will be rounded up to 55, while 54.4 will be rounded up to 54). The university has a policy of not allowing 54.5 adjustment to marks awarded by the original examiners will be the automatic "passing" cases, so the only-near" . rounding described above

MODULE DESCRIPTION FORM

Course description template

Module Information					
Course Information					
Module Title	Organic Chemistry		Module Delivery		
Module Type	Core		☒ Theory ☒ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar		
Module Code	ORCH125				
ECTS Credits	6				
SWL (hr/sem)	150				
Module Level		UGx 11 1	Semester of Delivery		1
Administering Department		Type Dept. Code	College	College of Agriculture	
Module Leader	Maryam Abdul Bari		e-mail	Email	
Module Leader's Acad. Title		Assistant Professor	Module Leader's Qualification		Master
Module Tutor	Maryam Abdul Bari		e-mail	mariam.ouraiiby@uobasrah.edu.iq	
Peer Reviewer Name		Name	e-mail	Email	

Scientific Committee Approval Date		Version Number	
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Relation with other Modules			
Relationship with other study subjects			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents	
learning outcomes, and guidance content ,Course objectives	
Module Objectives Course Objectives	The curriculum included a general study of organic chemistry and some of its formulas, including aliphatic compounds, their preparation methods, their most important reactions and nomenclature, as well as aromatic compounds and their lature, halogenated organic compounds, oxygenated organic derivatives and nomenc . compounds, nitrogenous compounds, and stereochemistry
Module Learning Outcomes Learning outcomes for the subject	Green Chemistry- 1 Sustainable Development- 2 Water purification- 3 Environmental Development- 4 Pollution measurement- 5 Recycling waste- 6 the level of university education and mechanisms for its developmentStudying -7 development Studying aspects of green space -8
Indicative Contents Guideline Contents	The organic chemistry curriculum is one of a series of important curricula in the Department of Food Science as a guide for students on the most important principles of organic chemistry, explaining the properties of chemical substances, how to m, and how to detect their presence to help in understanding the risks of prepare the these substances to humans and their environment, how to avoid these risks, and . how to identify the areas in which these substances can be used Keeping up with the amazing developments taking place in various fields and - sciences, especially organic chemistry, by clarifying the theoretical foundations and

	. scientific and applied principles of the organic chemistry course f the composition, nomenclature, and preparation Through a detailed study o of chemical substances and chemical reactions, which are explained through . their mechanisms
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Learning and Teaching Strategies Learning and teaching strategies	
Strategies	The modern teaching strategy includes achieving learning objectives in general and teaching chemical concepts in particular, as well as the difficulties that students face in understanding and acquiring organic chemistry concepts, and addressing the ulties by defining organic chemistry concepts and helping students acquire the diffic . correct chemical concepts

Student Workload (SWL) .The student's academic workload is calculated for 15 weeks			
Structured SWL (h/sem) Regular academic workload for the student during the semester	109	Structured SWL (h/w) Student's regular weekly study load	7
Unstructured SWL (h/sem) Irregular student workload during the semester	91	Unstructured SWL (h/w) Irregular weekly study load for the student	6
Total SWL (h/sem) The student's total academic workload during the semester	200		

Module Evaluation Course Material Assessment
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As		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
Weekly theoretical curriculum	
Week	Material Covered
Week 1	An overview of organic chemistry and its classifications
Week 2	Alkanes
Week 3	alkenes
Week 4	alkynes
Week 5	Assignment 1
Week 6	hydrocarbons Aromatic
Week 7	The secretaries
Week 8	alkyl
Week 9	Alcohol halides
Week 10	Phenols
Week 11	ethers

Week 12	aldehydes
Week 13	Ketones
Week 14	Carboxylic acids
Week 15	Assignment 2
Week 16	

Delivery Plan (Weekly Lab. Syllabus) laboratory schedule Weekly	
Week	Material Covered
Week 1	Physical properties of organic materials
Week 2	Measuring boiling point
Week 3	Purification of organic materials and recrystallization
Week 4	Solubility of organic compounds
Week 5	First assignment
Week 6	Active groups
Week 7	Double bond revealed

Learning and Teaching Resources Learning and teaching resources		
	Text	Available in the Library?
Required Texts	Organic Chemistry	Yes
Recommended Texts		
Websites		

Grading Scheme				
Grade chart				
Group	Grade	Appreciation	Marks %	Definition
Success Group (50 - 100)	A - Excellent	privilege	90 - 100	Outstanding performance
	B - Very Good	very good	80 - 89	Above average with some errors
	C - Good	good	70 - 79	Good work with some noticeable errors
	D - Satisfactory	middle	60-69	.Acceptable, but with major flaws
	E - Sufficient	acceptable	50-59	.The work meets minimum standards
Fail Group (0 – 49)	FX – Fail	under) Precipitate (processing	(45-49)	More work is needed, but .appreciation has been granted
	F – Fail	Precipitate	(0-44)	A great deal of work is required
Note: Decimal marks greater than or less than 0.5 will be rounded up or down to the nearest whole mark (e.g., will be rounded up to 55, while 54.4 will be rounded up to 54). The university has a policy of not allowing 54.5 adjustment to marks awarded by the original examiners will be the automatic "passing" cases, so the only-near" . rounding described above				

1 /Course description for Computer Science

Course Information			
Method of presenting/teaching the educational unit	1 / Computer		Course Title
theoretical ☐			type Course
a lecture ☐	COMP202		Course code
laboratory ☒	6		ECTS Credits
problem solving -Practical ☐			SWL (hr/sem)
practical ☐			Student's academic workload (hours/semester)
Episodes -Discussion ☐			
2	semester	1	Course level
College of Agriculture	College	Science Food	Section
alaa.abdull_sattar@uobasrah.edu.iq	mail-e	Alaa Riad Abdel Sattar	Course Instructor

PhD	Certificate	teacher	Scientific title
alaa.abdull_sattar@uobasrah.edu.iq	Email	Alaa Riad Abdel Sattar	The professor in course charge of the
	Email		Scientific Reviewer's Name
	issue number		Scientific Committee Approval the date

subjects Relationship with other study			
2	semester	None	Required prerequisite course unit
2	semester	None	synchronous study unit

Course objectives, learning outcomes, and guidance content	
- Dealing with computer applications . .and table management ,Handle printing, report formatting .Preparing statistics , ease of use, and speed of completion - Creating presentations	Course Objectives
:The student will be able to - Microsoft Office (Word, Excel, PowerPoint) Learn about , run, manage, save, and close program interfaces efficiently . - Create and format documents, presentations, and electronic spreadsheets using various . formatting tools for text, paragraphs, slides, and cells - and ,Inserting and editing various elements such as images, tables, shapes, charts . multimedia within documents and presentations - involves entering and organizing data, using cells and Excel Data management in . workbooks, and performing basic operations on them - s, reports, and Applying digital office production skills to create organized document . presentations that support academic and professional study and work	Learning outcomes for the subject
:Course scope - and familiarization with the basic program Microsoft Office suite Introduction to the . interfaces - creating documents, formatting text and Microsoft Word: Word processing using . paragraphs, inserting tables and images, and printing - Creating workbooks, entering data, Microsoft Excel: Electronic spreadsheets using . formatting worksheets, and using basic formulas and functions - Creating slides, formatting presentations, Microsoft PowerPoint: Presentations using . inserting multimedia, and adding animations and transitions - Saving, retrieving, and sharing files, and : File management and office productivity .reports, presentations, and documents preparing professional	Main topics of the course

Learning and teaching strategies	
The computer course teaching strategy includes achieving learning objectives related to Microsoft Office equipping students with the fundamental knowledge and skills in using It also focuses on addressing the PowerPoint. and ,Excel ,Word particularly ,applications difficulties students may encounter in working with electronic documents, spreadsheets, and on -h practical training and hands presentations, and resolving these difficulties through applications. This helps students acquire the correct digital skills and apply them effectively in . academic and professional settings	Methods or work plan

. weeks15 The student's academic workload is calculated for			
Structured SWL (h/sem) Student's structured workload (hours/semester)	93	Structured SWL (h/w) Student's regular weekly study load	2
Unstructured SWL (h/sem) Student's unstructured academic (workload (hours/semester	57	Unstructured SWL (h/w) for the student Irregular weekly study load	1.3
Total SWL (h/sem) academic workload during the semester	150		

Course Material Assessment					
As		Time or number	Degree	Week specified for delivery	Relevant educational output
Formative assessment	Short tests	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
	homework	2	20% (20)	2 and 12	LO #3, #4 and #6, #7
	Project or laboratory				
	a report	1	10% (10)	13	LO #5, #8 and #10
Final evaluation	Midterm exam	2hr	10% (10)	7	LO #1 - #7
	final exam	3hr	50% (50)	16	All
Final assessment			100% (100 Marks)		

Weekly curriculum

Materials included	Week
Launching the Program, ,Microsoft Office Word :General Introductory Basics -Computer Parts Review File, exercises Tabbing	.1
Document, exercises For pages And the appendix head Table, Add with Home, Insert tab, Handle Page tab	.2
Document, exercises For pages And the appendix head Table, Add with Home, Insert tab, Handle Page tab	.3
,Excel, Microsoft Office ,Word document inside the offer Page numbers, page layout tabs, methods ,Insertion exercises , running Excel	.4
inserting a ,Entering data into a worksheet , formatting a worksheet, inserting an image, renaming a worksheet worksheet layout, exercises	.5
First month exam	.6
, insert a comment ,Insert column, insert row, delete rows or columns, hide and show rows and columns exercises	.7
exercises ,Types of protection, data sorting and classification, freezing parts	.8
a presentation, adding animation to the creating , opening PowerPoint ,Microsoft Office PowerPoint presentation, exercises	.9
presentation formatting , slide handling, slide printing, exercises	.10
What is the internet? A brief history of internet development, benefits and advantages of the internet, some .terms, definition of networks, and ways to access the World Wide Web important	.11
Network search, file types on the net, internet connection ,Advantages and components of browsers requirements, exercises	.12
exercises ,Email , stages of sending emails, parts of an email address	.13
Viruses, how to deal with the threat of viruses, the most dangerous types of viruses, exercises	.14
Second monthly exam	.15

Learning and teaching resources		
Available in the library	Titles	
Yes	applications Computer basics and office book Computer and Internet Unit Curriculum	Required books
Yes	Computer basics and office applications	Recommended books
https://www.rwaq.org http://www.cprogramming.comebooks.com/12082-free-book		Electronic sources

Grade chart			
Definition	% Grade	Appreciation	The group
Performance Excellent/Outstanding	90 - 100	أ - privilege	degree success (50 - 100)
Above average with some errors	80 - 89	ب - very good	
Good work with some noticeable errors	70 - 79	ت - good	
Acceptable, but it suffers from significant .shortcomings	60-69	ث - middle	
.The work meets minimum standards	50-59	ج - acceptable	
More work is needed, but accreditation .has been granted	(45-49)	(Sediment (under processing	Failure grade (0 – 49)
It requires a large amount of work	(0-44)	Precipitate	

to the nearest whole mark Note: Marks with decimal places greater than or less than 0.5 will be rounded up or down e.g., a mark of 54.5 will be rounded up to 55, while a mark of 54.4 will be rounded up to 54). The university has a) failure"), so the only adjustment to marks awarded by the original -failure ("near-policy against exceeding near .nvigilator will be the automatic rounding described above

Course description template

information Unity Course Information			
Unit Title	Fundamentals of Engineering Workshops		Unit delivery
Unit type	quarterly		Theory ☒ Present ☒ Laboratory ☒ Educational ☐ work My Study Circle ☐
Unity symbol	ENWK113		
	8		
SWL (Hour/SEM)			
Unit level	UGx11 1	Delivery semester	1
Administrative Management	Write the department code	College	Type: College Code
Unit Commander	Dr. Hassan Hadi Mahdi	mail-e	Wael.swadi@uobasrah.edu.iq
Unit Commander's Title	professor assistant	Unit Commander Qualifications	PhD
Unit teacher		mail-e	
Name of peer reference		mail-e	
Date of approval by the Scientific Committee		issue number	

relationship with Units other The Relationship with other study subjects			
Basic Requirements Unit		semester	
Common Requirements		semester	

Unit			
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Goals Unity and results Learning Contents Guidance Course objectives, learning outcomes, and guidance content	
Goals Unity Objectives Course	Understanding the geometric principles of dimensions and units is essential due to the abundance of dimensional terminology and unit systems, ultimately enabling the monitoring of ability to convert between different units during the operation and .food processing equipment
outputs Learning For unity Learning outcomes for the subject	Important: Write at least 6 learning outcomes , preferably equal to the number of .study weeks 1 . Introduction to laboratory physics and food engineering 2 . .List the different terms associated with electrical circuits 3 . .Summarize the meaning of motion, its types, and Newton's laws 4 . . ventilation problems 5 . .Describe electrical power, charge, and current intensity 6 . .Define Ohm's law 7 . .eir applicationsUnderstanding basic pumps and th 8 . .Discuss fluid transport processes in pipelines 9 . .Discuss the operation of refrigerated storage facilities . 1 0

Strategies Learning Education Learning and teaching strategies	
Strategies	adopted in delivering this unit Write something like: The main strategy to be is to encourage student participation in exercises, while simultaneously improving and expanding their critical thinking skills. This will be achieved g through interactive classroom and educational programs, and by considerin simple experiments involving sampling activities that are of interest to the .students

burden a job Student(SWL)			
.The student's academic workload is calculated for 15 weeks			
SWL regulator(h/sem) Regular academic workload for the semester student during the	109	SWL regulator(H/ W) Student's regular weekly study load	7
-NonSWL Organized(h/sem) Irregular student workload during the semester	91	-NonSWL Organized(H/ Th) Irregular weekly study load for the student	6
TotalSWL (h/sem) student's total academic The workload during the semester	200		

evaluation Unity Course Material Assessment					
like		Time/Number	(Weight (in marks	Week due	Relevant learning outcomes
Formative assessment	competitions	2	(10) %10	and 10 5	LO #1, #2, # 10, #11
	appointments	2	(10) %10	and 12 2	LO #3, #4, # 6, #7
	/ Projects .Laboratory	1	(10) %10	continuous	all
	a report	1	(10) %10	13	LO #5, #8 and #10
Final evaluation	Midterm exam	hours 2	(10) %10	7	7# -Lo #1
	Final exam	hours 3	(50) %50	16	all
assessment Overall			100) %100 (degrees		

plan Delivery((Methodology Weekly Weekly theoretical curriculum	
week	covered materials
Week 1	The importance of introducing the student to the fundamentals of –Introduction specific to the practical part engineering workshops and the workshop
Week 2	Dimensions and Units
Week 3	Part One ,Movement and its types

Week 4	Part Two ,Movement and its types
Week 5	Means of transport
Week 6	Requirements for food processing plants
Week 7	ventilation Food processing plant
Week 8	Part 1 ,and their types Pumps
Week 9	Part Two ,and their types Pumps
Week 10	supercritical fluids
Week 11	Fluid flow
Week 12	Main electricity
Week 13	Food warehouses
Week 14	Requirements for food processing plants
Week 15	Preparatory week before the final exam

plan Delivery((methodology laboratory Weekly Weekly laboratory schedule	
week	covered materials
Week 1	Applications of Newton's Laws of Motion :Laboratory Exercise 1
Week 2	laboratory and operating the students' transportation equipment Entering the pilot :Laboratory 2 .within it
Week 3	Exploring the different methods of laboratory ventilation :Laboratory Exercise 3
Week 4	importance in Understanding the operation of different pumps and their :Laboratory Exercise 4 laboratories
Week 5	Examining and working with electrical circuits and their installations :Laboratory 5
Week 6	Conducting experiments on food preservation and introducing mechanization into :Laboratory 6 .the process

sources Learning Education Learning and teaching resources		
	text	Is it available in the ?library
Required texts	-Electrical Circuits , C.K. Alexander and M.N.O. Sadiko, McGraw Hill Education	Yes
Recommended texts	Dr. Asaad .Engineering Workshop Manual, authored by Prof Rahman Saeed and Asst. Prof. Dr. Hassan Hadi Mahdi	Yes
Websites	engineering-engineering/electrical-and-science-https://www.coursera.org/browse/physical	

a plan Grades Grade chart				
group	degree	Appreciation	% Signs	identification
Success Group (100 - 50)	A- Excellent	privilege	100 - 90	Outstanding performance
	B- Good very	very good	89 - 80	Above average with some errors
	C- Good	good	79 - 70	Sound work with noticeable errors
	D- Satisfactory	middle	69-60	.significant shortcomings Fair, but with
	E- Sufficient	acceptable	59-50	.The work meets minimum standards
Group failure (49 – 0)	FX - Failure	Sediment (under (processing	(49-45)	More work is needed, but credit is .granted
	F - Failure	Precipitate	(44-0)	amount of work is required A large
Marks with decimal places greater than 0.5 or less than the highest or lowest full mark will be rounded up :Note university has a e.g. , a mark of 54.5 will be rounded up to 55, while a mark of 54.4 will be rounded up to 54). The) pass failure , " so the only adjustment to the marks awarded by the original mark(s) -tolerance policy for "near-zero .will be the automatic rounding described above				

Grading Scheme Grade chart				
Group	Grade	Appreciation	Marks %	Definition
Success Group (50 - 100) Passing grade	A - Excellent	privilege	90 - 100	Outstanding Performance Outstanding Performance / Excellent
	B - Very Good	very good	80 - 89	Above average with some errors Above average with some errors
	C - Good	good	70 - 79	Sound works with notable errors Good work with some noticeable errors
	D - Satisfactory	middle	60-69	Fair but with major shortcomings Acceptable, but it suffers from significant .shortcomings
	E - Sufficient	acceptable	50-59	Work meets minimum criteria .The work meets minimum standards
Fail Group Failure (0 – 49) grade	FX – Fail	under) Precipitate (processing	(45-49)	More work required but credit awarded More work is needed, but accreditation .has been granted
	F – Fail	Precipitate	(0-44)	Considerable amount of work required It requires a large amount of work
or down to the nearest whole mark will be rounded up 0.5 Marks with decimal places greater than or less than : Note The university has a .(54 will be rounded up to of 54.4 while a mark , 55 will be rounded up to of 54.5 e.g., a mark) so the only adjustment to marks awarded by the original , (" failure-near ") failure-policy against exceeding near .invigilator will be the automatic rounding described above				

MODULE DESCRIPTION FORM

Course description template

Module Information					
Course Information					
Module Title Course Title	English Language		Module Delivery teaching the / Method of presenting educational unit		
Module Type Course type	essential		theoretical ☒ a lecture ☐ laboratory ☐ problem solving - Practical ☐ practical ☐ Episodes - Discussion ☐		
Module Code Course code	ENCH121				
ECTS Credits	6				
SWL (hr/sem) Student's academic hours) workload (semester /	150				
Module Level Course level		UGx 11 1	Semester of Delivery semester		1
Administering Department Section		Food Science	College College	College of Agriculture	
Module Leader Course Instructor	Abdul Rahman Lafteh		e-mail mail-e		
Module Leader's Acad. Title Scientific title		teacher	Module Leader's Qualification Certificate		doctor

Module Tutor The professor in charge of the course		e-mail	
Peer Reviewer Name Scientific Reviewer's Name		e-mail	
ApprovalScientific Committee the date Date		Version Number	

Relation with other Modules Relationship with other study subjects			
Prerequisite module Required prerequisite course unit	None	Semester semester	
Co-requisites module synchronous study unit	None	Semester semester	

Module Aims, Learning Outcomes and Indicative Contents Course objectives, learning outcomes, and guidance content	
Module Objectives Course Objectives	Understanding different texts : Developing reading and comprehension skills academic, literary, news), extracting main ideas, and developing speed and) . analytical reading skills Mastering the writing of paragraphs, articles, formal : Developing writing skills e rules, proper structure and letters and emails, while adhering to th . consistency of ideas The ability to understand everyday conversations, : Enhancing listening skills lectures, and audio materials in different accents, and to identify important . points and details Building confidence in speaking and : mmunicationMastering speaking and co expressing opinions fluently, and participating in discussions and

	. presentations Building a broad : (Grammar & Vocabulary) Mastering linguistic construction rules correctly in different vocabulary and using grammatical and syntactic . contexts
Module Learning Outcomes Learning outcomes for the subject	: Writing Outcomes (Paragraphs & Formulating coherent and organized paragraphs and essays Essays). Writing official correspondence such as emails and reports with linguistic . accuracy . and punctuation marks correctly transition words Use : Listening Outcomes . Understanding audio conversations and lectures in different English dialects . while listening taking notes points and Extracting key Distinguishing between different tones and expressions and determining the . purpose of the audio text : Speaking Outcomes . Expressing opinions and ideas fluently and clearly in different situations . participating in group discussions and ations Giving present Using correct pronunciation and appropriate vocal intonation to convey . meaning outputs and practical Cognitive
Indicative Contents Main topics of the course	Grammar, spelling, and speaking

Learning and Teaching Strategies Learning and teaching strategies	
Strategies Methods or work plan	

Student Workload (SWL) . weeks 15 The student's academic workload is calculated for			
Structured SWL (h/sem) / hours) Student's structured workload (semester	93	Structured SWL (h/w) load Student's regular weekly study	2
Unstructured SWL (h/sem) academic unstructured Student's (semester / hours) workload	57	Unstructured SWL (h/w) load for the student Irregular weekly study	1.3
Total SWL (h/sem)	150		

Module Evaluation					
Course Material Assessment					
As		NumberTime/	Weight (Marks) Grade	Week Due Delivery) (week	Relevant Learning Relevant Outcome educational output
Formative assessment Formative assessment	short Quizzes ((tests	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Homework assignments	2	20% (20)	2 and 12	LO #3, #4 and #6, #7
	. LabProjects /				
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment Final evaluation	Exam Midterm	2hr	10% (10)	7	LO #1 - #7
	Exam Final	3hr	50% (50)	16	All
(final evaluation)Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
Weekly theoretical curriculum	
Week	Material Covered
Week 1	RulesGrammar Basic
Week 2	Present, Past, Simple and Continuous. :Basic tenses
Week 3	. uncountable nouns and articlesCountable and
Week 4	Forms (Going to / Will). and FuturePresent Perfect
Week 5	.(Can, Could, Should, Must) Modal verbs
Week 6	First exam
Week 7	.(Pronouns & Prepositions) Hail of pronouns and adverbs of time and place
Week 8	: SkillsReading and Vocabulary
Week 9	. length texts and general or specialized articles-Reading short to medium
Week 10	(Scanning). and specific details(Skimming) Extracting key ideas
Week 11	(Phrasal Verbs & Collocation) Building common vocabulary and structures

Week 12	:skills Writing and expression
Week 13	. constructing the correct sentence and avoiding common mistakes By
Week 14	.marks with the use of punctuation (Paragraph Structure) Writing a coherent paragraph
Week 15	Second exam
Week 16	review

Delivery Plan (Weekly Lab. Syllabus) Weekly laboratory schedule	
Week	Material Covered
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources Learning and teaching resources		
	Text Titles	Available in the Library? Available in the library
Required Texts Required books	Chemistry Analytical Fundamentals of Analytical Chemistry Analytical Chemistry Principles of	Yes
Recommended Texts Recommended books	Modern Analytical Chemistry	No
Websites Electronic sources		

Grading Scheme Grade chart				
Group	Grade	Appreciation	Marks %	Definition
Success Group (50 - 100) Passing grade	A - Excellent	privilege	90 - 100	Outstanding Performance Outstanding Performance / Excellent
	B - Very Good	very good	80 - 89	Above average with some errors

				Above average with some errors
	C - Good	good	70 - 79	Sound works with notable errors noticeable errors Good work with some
	D - Satisfactory	middle	60-69	Fair but with major shortcomings Acceptable, but it suffers from significant .shortcomings
	E - Sufficient	acceptable	50-59	Work meets minimum criteria .The work meets minimum standards
Fail Group Failure (0 – 49) grade	FX – Fail	under) Precipitate (processing	(45-49)	More work required but credit awarded More work is needed, but accreditation .has been granted
	F – Fail	Precipitate	(0-44)	Considerable amount of work required large amount of work It requires a

or down to the nearest whole mark will be rounded up 0.5 Marks with decimal places greater than or less than : Note
The university has a .(54 will be rounded up to of 54.4 while a mark , 55 will be rounded up to of 54.5 e.g., a mark)
so the only adjustment to marks awarded by the original , (" failure-near ") failure-policy against exceeding near
.invigilator will be the automatic rounding described above

d Description of the second stage course, first and second semesters

MODULE DESCRIPTION FORM

Course description template

Module Information		
Course Information		
Module Title Course Title	biochemistry	Module Delivery teaching the / Method of presenting educational unit
Module Type Course type	essential	theoretical ☒
Module Code	BICH230	a lecture ☐

Course code			laboratory ☐	
ECTS Credits	6		problem solving - Practical ☐	
SWL (hr/sem) Student's academic hours) workload (semester /	150		practical ☐ Episodes - Discussion ☐	
Module Level Course level	UGx 11 1	Semester of Delivery semester		1
Administering Department Section	Food Science	College College	College of Agriculture	
Module Leader Course Instructor	Prof. Dr. Wasan Kadhim Abdul Razzaq	e-mail mail-e	wasan.abdul_razzaqi@uobasrah.edu.iq	
Module Leader's Acad. Title Scientific title	.Mr	Module Leader's Qualification Certificate		doctor
Module Tutor The professor in charge of the course	Shereen Fadel Abbas Nawal Khaled Zabin	e-mail	sheren.abba@uobasra.edu.iq nawal.zben@uobasrah.edu.iq	
Peer Reviewer Name Scientific Reviewer's Name		e-mail		
Approval Scientific Committee the date Date		Version Number		

Relation with other Modules			
Relationship with other study subjects			
Prerequisite module Required prerequisite course unit	None	Semester semester	
Co-requisites module synchronous study unit	None	Semester semester	

Module Aims, Learning Outcomes and Indicative Contents Course objectives, learning outcomes, and guidance content	
Module Objectives Course Objectives	of the process for preparing and detecting Introducing students to the concepts • . Basic compounds . Developing skills in collecting, organizing, and presenting data • of the results obtained during the practical lesson Interpretation and analysis • of vehicle detection Learn the principles • s, fats, and in detecting and estimating carbohydrates, protein Acquiring skills • enzymes Promoting critical thinking in interpreting scientific results
Module Learning Outcomes Learning outcomes for the subject	:The student will be able to
Indicative Contents Main topics of the course	

Learning and Teaching Strategies Learning and teaching strategies	
Strategies Methods or work plan	. Theoretical lectures inside classrooms • . Presentations • . Group discussions • . solving, inquiry, and brainstorming-Learning based on problem • . projects homework, reports, and Learning based on

Student Workload (SWL) . weeks15 The student's academic workload is calculated for			
Structured SWL (h/sem) / hours) Student's structured workload (semester	93	Structured SWL (h/w) load Student's regular weekly study	2
Unstructured SWL (h/sem) academic unstructured Student's (semester / hours) workload	57	Unstructured SWL (h/w) load for the student Irregular weekly study	1.3

Total SWL (h/sem) during the semester workload academic	150
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Module Evaluation					
Material Assessment Course					
	As	NumberTime/	Weight (Marks) Grade	Week Due Delivery) (week	Relevant Learning Relevant Outcome educational output
Formative assessment Formative assessment	short Quizzes ((tests	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Homework assignments	2	20% (20)	2 and 12	LO #3, #4 and #6, #7
	. LabProjects /				
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment Final evaluation	Exam Midterm	2hr	10% (10)	7	LO #1 - #7
	Exam Final	3hr	50% (50)	16	All
(final evaluation) Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
Weekly theoretical curriculum	
Week	Material Covered
Week 1	Components of the Living Cell and Their Functions –Introduction to Biochemistry
Week 2	Way -Types, and Testing, along with Sugar Structures and Three ,Carbohydrates: Definition Structure
Week 3	Cyclic –Monosaccharide derivatives –Monosaccharide homologs –Monosaccharides structure of sugars
Week 4	reducing types-reducing and non –sugar carbohydrates -Low
Week 5	homogeneous and heterogeneous types –Polysaccharides
Week 6	–Reactions –Structure –Classification –Fatty Acids –Importance –Definition –Lipids Geometric Isomers of Fatty Acids
Week 7	waxes), their structures, and fat Categories of fats: Simple fats, their types (oils, fats, and .constants

Week 8	First exam
Week 9	their types and structures – fats Complex and derived
Week 10	their types, structures, properties, and reactions –Amino acids
Week 11	Denatization –Levels of Protein Synthesis –Classification –Proteins: Definition –Peptides
Week 12	types of –their structure –their functions –nucleotides –their importance –Nucleic acids nucleic acids
Week 13	Classification –Mechanism of Action –Definition –Enzymes
Week 14	Inactive and active enzymes; factors affecting the rate of enzymatic reactions
Week 15	Second exam
Week 16	review

Delivery Plan (Weekly Lab. Syllabus) Weekly laboratory schedule	
Week	Material Covered
Week 1	Carbohydrate detection and classification
Week 2	Detection of reducing sugars
Week 3	Detection and estimation of ketone sugars
Week 4	Detection of pentose sugars
Week 5	First monthly exam
Week 6	Protein detection
Week 7	Detection of amino acids
Week 8	the amino acid of proteins Detection of the sulfur group in
Week 9	Detection of proteins using solvents and metals
Week 10	Second monthly exam
Week 11	Fat detection
Week 12	Cholesterol detection
Week 13	Distinguishing between fat and oil using copper acetate testing
Week 14	Detecting soap in fats
Week 15	artificial intelligence General review

Learning and Teaching Resources Learning and teaching resources		
	Text Titles	Available in the Library? Available in the library

Required Texts Required books	Biochemistry Book Agricultural	Yes
Recommended Texts Recommended books	The textbook for agricultural biochemistry, parts one and two Fundamentals of Biochemistry	No
Websites Electronic sources	Fundamentals of Biochemistry	

Grading Scheme Grade chart				
Group	Grade	Appreciation	Marks %	Definition
Success Group (50 - 100) Passing grade	A - Excellent	privilege	90 - 100	Outstanding Performance Outstanding Performance / Excellent
	B - Very Good	very good	80 - 89	Above average with some errors some errors Above average with
	C - Good	good	70 - 79	Sound works with notable errors Good work with some noticeable errors
	D - Satisfactory	middle	60-69	Fair but with major shortcomings Acceptable, but it suffers from significant .shortcomings
	E - Sufficient	acceptable	50-59	Work meets minimum criteria .The work meets minimum standards
Fail Group Failure (0 – 49) grade	FX – Fail	under) Precipitate (processing	(45-49)	More work required but credit awarded More work is needed, but accreditation .granted has been
	F – Fail	Precipitate	(0-44)	Considerable amount of work required It requires a large amount of work
or down to the nearest whole mark will be rounded up 0.5 Marks with decimal places greater than or less than : Note The university has a .(54 will be rounded up to of 54.4 while a mark , 55 will be rounded up to of 54.5 e.g., a mark) so the only adjustment to marks awarded by the original , (" failure-near ") failure-policy against exceeding near .nding described aboveinvigilator will be the automatic rou				

MODULE DESCRIPTION FORM

Course description template

Module Information				
Course Information				
Module Title Course Title	Food processing plant engineering		Module Delivery teaching the / Method of presenting educational unit	
Module Type Course type	essential		theoretical ☒ a lecture ☐ laboratory ☐ problem solving - Practical ☐ practical ☐ Episodes - Discussion ☐	
Module Code Course code	ANCH121			
ECTS Credits	6			
SWL (hr/sem) Student's academic hours) workload (semester /	150			
Module Level Course level	UGx 11 2	Semester of Delivery semester	2	
Administering Department Section	Food Science	College College	College of Agriculture	
Module Leader Course Instructor	High visit to Hashim	e-mail mail-e	alia.hashim@uobasrah.edu.iq	
Module Leader's Acad. Title Scientific title	.Mr	Module Leader's Qualification Certificate	PhD	
Module Tutor The professor in charge of the course	High visit to Hashim	e-mail	alia.hashim@uobasrah.edu.iq	
Peer Reviewer Name Scientific Reviewer's Name		e-mail		
Approval Scientific Committee the date Date		Version Number	1.0	

Relation with other Modules study subjects Relationship with other			
Prerequisite module Required prerequisite course unit	None	Semester semester	
Co-requisites module synchronous study unit	None	Semester semester	

Module Aims, Learning Outcomes and Indicative Contents outcomes, and guidance content Course objectives, learning	
Module Objectives Course Objectives	Understanding the design and planning of food processing plants to ensure • . the efficiency of production processes and meet food safety requirements Identifying the devices, equipment, and machinery used in the food industry • . and understanding their operating mechanisms Studying the movement and flow of raw materials and finished products • duce loss and within food establishments and implementing strategies to re . waste Applying occupational health and safety principles within food processing • . plants Good Manufacturing Gaining knowledge of quality requirements and • . Approved in the food industry(GMP) systems Practices ring problems faced by food processing plants and Analyzing the enginee • . proposing appropriate solutions to address them Understanding the principles of preventive maintenance for equipment and • . devices used in the food industry
Module Learning Outcomes for Learning outcomes the subject	Explaining the basic principles of food plant engineering and its role in the • . design and operation of food manufacturing facilities Identifying food manufacturing equipment, production line components, and • . s and operating mechanismsdescribing their function Analyzing process flow diagrams within food factories and evaluating • . methods for improving operational efficiency Applying the principles of design and planning of food factories to ensure • . processes and to meet food safety requirements the smooth flow of production Assessing food quality and safety requirements in accordance with Good • . and relevant health standards(GMP) Manufacturing Practices Identifying engineering and occupational hazards in food manufacturing • . environments and proposing appropriate preventive measures to reduce them

Indicative Contents Main topics of the course	:Scope of analytical chemistry An introduction to food processing plant engineering and its role in the food • industry . Principles of food factory design and planning• . selection and planning for food manufacturing facilities• Site . n food factoriesflow and process flow analysis withi• Material . equipment : classification, selection, and operation• Food processing The facilities and support services in food factories, including water, steam, • . cooling, compressed air and power systems . requirements in food factories• Hygiene, disinfection and public health . health and safety in food manufacturing facilities• Occupational and relevant regulatory and (GMP) Good Manufacturing Practices• . legislative requirements l and food safety considerations in the design of food factoriescontro• Quality .
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Learning and Teaching Strategies Learning and teaching strategies	
Strategies Methods or work plan	rely on explanation, scientific interaction, and brainstorming • The lectures . techniques Using computers and the internet as educational tools to obtain information • . and develop knowledge on one of the topics included in the course seminar Each student presents a• . syllabus

Student Workload (SWL) . weeks15 The student's academic workload is calculated for			
Structured SWL (h/sem) / hours) Student's structured workload (semester	93	Structured SWL (h/w) load Student's regular weekly study	2
Unstructured SWL (h/sem) academic unstructured Student's (semester / hours) workload	57	Unstructured SWL (h/w) load for the student Irregular weekly study	1.3
Total SWL (h/sem) during the semester workload academic	150		

Module Evaluation					
Course Material Assessment					
As		NumberTime/	Weight (Marks) Grade	Week Due Delivery) (week	Relevant Learning Relevant Outcome educational output
Formative assessment Formative assessment	short Quizzes ((tests	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Homework assignments	2	20% (20)	2 and 12	LO #3, #4 and #6, #7
	. LabProjects /				
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment Final evaluation	Exam Midterm	2hr	10% (10)	7	LO #1 - #7
	Exam Final	3hr	50% (50)	16	All
(final evaluation) Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
Weekly theoretical curriculum	
Week	Material Covered
Week 1	Manufacturing units and work units
Week 2	Matter and energy balance
Week 3	the manufacture of equipment and devices Metals used in
Week 4	The effect of minerals in food
Week 5	Heat transfer in food manufacturing
Week 6	First exam
Week 7	Steam generation and its uses
Week 8	sterilization For heat treatments of food products: pasteurization and
Week 9	Refrigeration and freezing
Week 10	Pumping and its uses in food and dairy processing plants
Week 11	Mixing and emulsifying equipment
Week 12	Food separation processes
Week 13	Food and dairy product focus
Week 14	(removing moisture from food) Food drying

Week 15	Second exam
Week 16	review

Delivery Plan (Weekly Lab. Syllabus) Weekly laboratory schedule	
Week	Material Covered
Week 1	Design of food and dairy processing plants
Week 2	Food handling and processing methods
Week 3	Food and dairy product stores
Week 4	Metals used in the manufacture of various tools and equipment
Week 5	First exam
Week 6	Water sources in food and dairy processing plants
Week 7	Methods of waste and garbage disposal

Learning and Teaching Resources Learning and teaching resources		
	Text Titles	Available in the Library? Available in the library
Required Texts Required books	Food and Dairy Processing Engineering Artificial Intelligence in the Food Industry: Enhancing Quality and Safety Artificial Intelligence in Food Science: Transforming Food and Bioprocess Development Artificial Intelligence: A Real Opportunity in the Food Industry (Springer)	Yes
Recommended Texts Recommended books	Application of Artificial Intelligence in Food Industry: A Review Journal of Food Process Engineering	No
Websites Electronic sources		

Grading Scheme Grade chart				
Group	Grade	Appreciation	Marks %	Definition
Success Group (50 - 100) Passing grade	A - Excellent	privilege	90 - 100	Outstanding Performance Outstanding Performance / Excellent
	B - Very Good	very good	80 - 89	Above average with some errors Above average with some errors
	C - Good	good	70 - 79	Sound works with notable errors

				Good work with some noticeable errors
	D - Satisfactory	middle	60-69	Fair but with major shortcomings Acceptable, but it suffers from significant shortcomings
	E - Sufficient	acceptable	50-59	Work meets minimum criteria .The work meets minimum standards
Fail Group Failure (0 – 49) grade	FX – Fail	under) Precipitate (processing	(45-49)	More work required but credit awarded More work is needed, but accreditation .has been granted
	F – Fail	Precipitate	(0-44)	Considerable amount of work required It requires a large amount of work

or down to the nearest whole mark will be rounded up 0.5 Marks with decimal places greater than or less than : Note
The university has a .(54 will be rounded up to of 54.4 while a mark , 55 will be rounded up to of 54.5 e.g., a mark)
so the only adjustment to marks awarded by the original , (" failure-near ") failure-ing nearpolicy against exceed
.invigilator will be the automatic rounding described above

MODULE DESCRIPTION FORM

2026-2025 Course Description Template

Module Information				
Information Course				
Module Title Course Title	Food Processing Plant Management			Module Delivery teaching the / Method of presenting educational unit
Module Type Course type				My theory☒ a lecture☒ Discussion during the lecture☒ Scientific visits☒ Episodes - Discussion☒
Module Code Course code	FCMA 216			
ECTS Credits	2			
SWL (hr/sem) Student's academic hours) workload (semester /	60			
Module Level		2UGx 11	Semester of Delivery	2

Course level			semester	
Administering Department Section		Food Science	College College	College of Agriculture
Module Leader Course Instructor	Mohammed Ziyara Iskandar		e-mail mail-e	mohammed.eskander@uobasrah.edu.iq
Module Leader's Acad. Title Scientific title		assistant professor	Module Leader's Qualification Certificate	
Module Tutor The professor in charge of the course		Mohammed Ziyara Iskandar	e-mail	mohammed.eskander@uobasrah.edu.iq
Peer Reviewer Name Scientific Reviewer's Name			e-mail	
Approval Scientific Committee the date Date			Version Number	

Relation with other Modules			
Relationship with other study subjects			
Prerequisite module Required prerequisite course unit	None		Semester semester
Co-requisites module synchronous study unit	None		Semester semester

Module Aims, Learning Outcomes and Indicative Contents	
Course objectives, learning outcomes, and guidance content	
Module Objectives Course Objectives	scientific personnel capable of managing food processing plants Preparing -1 . . The students' ability to manage production in food processing plants - 2 The students' ability to manage the quality control department of the food - 3

	.processing plants
Module Learning Outcomes Learning outcomes for the subject	:The student will be able to Understanding the definition of diversified management, its benefits, -1 management and the different types of Identifying important management functions, understanding the -2 . benefits of these functions, and how to utilize them of planning in factory management, including Clarifying the concept - 3 modern planning methods ion in factory managementof organizat The concept Explanation - 4 of guidance in laboratory management; The concept Explanation - 5 .firstly, modern guidance methods
Indicative Contents Main topics of the course	Food Processing Plant Management Scope of manage food and dairy processing to Searching for advanced methods -1 plants Studying the latest marginal theories in management science -2 Knowledge of the most important branches of management related to -3 factory management, such as personnel management, production .management, maintenance management, and others management, marketing

Learning and Teaching Strategies Learning and teaching strategies	
Strategies Methods or work plan	The modern teaching strategy includes achieving learning objectives • in food processing management concepts in general and teaching . theoretical lectures in classrooms through ,particular . Group discussions • . solving, inquiry, and brainstorming-Learning based on problem • . based learning -project and based •

Student Workload (SWL) . weeks 15 The student's academic workload is calculated for			
Structured SWL (h/sem) / hours) Student's structured workload (semester	60	Structured SWL (h/w) load Student's regular weekly study	2

Unstructured SWL (h/sem) academic unstructured Student's (semester / hours) workload	20	Unstructured SWL (h/w) load for the student Irregular weekly study	1.3
Total SWL (h/sem) during the semester workload academic	80		

Module Evaluation					
Course Material Assessment					
As		NumberTime/	Weight (Marks) Grade	Week Due Delivery) (week	Relevant Learning Relevant Outcome educational output
Formative assessment Formative assessment	short Quizzes ((tests	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Homework assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects		10% (10)		
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment Final evaluation	Exam Midterm	2hr	10% (10)	7	LO #1 - #7
	Exam Final	3hr	50% (50)	16	All
(final evaluation) Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
Weekly theoretical curriculum	
Week	Material Covered
Week 1	Historical development of the food industry
Week 2	The concept of management
Week 3	Management jobs
Week 4	Planning in food processing plants
Week 5	processing plants in food Organization
Week 6	First exam
Week 7	Guidance in food processing plants

Week 8	Food safety inspections
Week 9	the boss
Week 10	management in food processing plants
Week 11	Human Resources Management in Food Processing Plants
Week 12	exam Second
Week 13	Maintenance Department in the Food Processing Plant
Week 14	plants Quality control management in food processing
Week 15	Marketing Department
Week 16	review

Delivery Plan (Weekly Lab. Syllabus) Weekly laboratory schedule	
Week	Material Covered
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources Learning and teaching resources		
	Text Titles	Available in the Library? Available in the library
Required Texts Required books	Management , by Dr. Hilan Hammadi Food Processing Plant Tikriti and others, 1986-AI	Yes
Recommended Texts Recommended books	Printed lectures by the course instructor	No
Websites Electronic sources		

Grading Scheme Grade chart				
Group	Grade	Appreciation	Marks %	Definition
Success Group (50 - 100) Passing grade	A - Excellent	privilege	90 - 100	Outstanding Performance Outstanding Performance / Excellent
	B - Very Good	very good	80 - 89	Above average with some errors Above average with some errors
	C - Good	good	70 - 79	Sound works with notable errors Good work with some noticeable errors
	D - Satisfactory	middle	60-69	Fair but with major shortcomings Acceptable, but it suffers from significant .shortcomings
	E - Sufficient	acceptable	50-59	Work meets minimum criteria .The work meets minimum standards
Fail Group Failure (0 – 49) grade	FX – Fail	under) Precipitate (processing	(45-49)	More work required but credit awarded More work is needed, but accreditation .has been granted
	F – Fail	Precipitate	(0-44)	Considerable amount of work required It requires a large amount of work
or down to the nearest whole mark will be rounded up 0.5 Marks with decimal places greater than or less than : Note The university has a .(54 will be rounded up to of 54.4 while a mark , 55 will be rounded up to of 54.5 e.g., a mark) so the only adjustment to marks awarded by the original , (" failure-near ") failure-policy against exceeding near .invigilator will be the automatic rounding described above				

e description for Computer Science/2Cours

Course Information			
Method of presenting/teaching the educational unit	Computer /2		Course Title
theoretical ☐			Course type
a lecture ☐	COMP202		Course code
laboratory ☒	6		ECTS Credits
problem solving -Practical ☐			SWL (hr/sem)
practical ☐			Student's academic workload (hours/semester)
Episodes -Discussion ☐			
2	semester	1	Course level
College of Agriculture	College	Food Science	Section
alaa.abdull_sattar@uobasrah.edu.iq	mail-e	Alaa Riad Abdel Sattar	Course Instructor

PhD	Certificate	teacher	Scientific title
alaa.abdull_sattar@uobasrah.edu.iq	Email	Alaa Riad Abdel Sattar	The professor in charge of the course
	Email		Scientific Reviewer's Name
	issue number		Scientific Committee Approval the date

Relationship with other study subjects			
2	semester	None	Required prerequisite unit course
2	semester	None	synchronous study unit

Course objectives, learning outcomes, and guidance content	
- Dealing with computer applications . .Handle printing, report formatting, and table management .statistics , ease of use, and speed of completion Preparing - Creating presentations	Course Objectives
:The student will be able to - Microsoft Office (Word, Excel, PowerPoint) Learn about , run, manage, save, and close program interfaces efficiently . - Create and format documents, presentations, and electronic spreadsheets using various . formatting tools for text, paragraphs, slides, and cells - Inserting and editing various elements such as images, tables, shapes, charts, and . and presentations multimedia within documents - involves entering and organizing data, using cells and Excel Data management in . workbooks, and performing basic operations on them - Applying digital office production skills to create organized documents, reports, and . at support academic and professional study and workpresentations th	Learning outcomes for the subject
:Course scope - and familiarization with the basic program Microsoft Office suite Introduction to the . interfaces - creating documents, formatting text and Microsoft Word: Word processing using . paragraphs, inserting tables and images, and printing - Creating workbooks, entering data, Microsoft Excel: Electronic spreadsheets using . formatting worksheets, and using basic formulas and functions - Creating slides, formatting presentations, Microsoft PowerPoint: Presentations using . inserting multimedia, and adding animations and transitions - Saving, retrieving, and sharing files, and : File management and office productivity .eports, presentations, and documentspreparing professional r	Main topics of the course

Learning and teaching strategies

The computer course teaching strategy includes achieving learning objectives related to Microsoft Office equipping students with the fundamental knowledge and skills in using It also focuses on addressing the PowerPoint, and Excel, Word particularly, applications difficulties students may encounter in working with electronic documents, spreadsheets, and on -h practical training and handspresentations, and resolving these difficulties through applications. This helps students acquire the correct digital skills and apply them effectively in . academic and professional settings

Methods or work plan

. weeks15 The student's academic workload is calculated for

Structured SWL (h/sem) Student's structured workload (hours/semester)	93	Structured SWL (h/w) Student's regular weekly study load	2
Unstructured SWL (h/sem) Student's unstructured academic (workload (hours/semester	57	Unstructured SWL (h/w) for the student Irregular weekly study load	1.3
Total SWL (h/sem) academic workload during the semester	150		

Course Material Assessment

As		Time or number	Degree	Week specified for delivery	Relevant educational output
Formative assessment	Short tests	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
	homework	2	20% (20)	2 and 12	LO #3, #4 and #6, #7
	Project or laboratory				
	a report	1	10% (10)	13	LO #5, #8 and #10
Final evaluation	Midterm exam	2hr	10% (10)	7	LO #1 - #7
	final exam	3hr	50% (50)	16	All
Final assessment			100% (100 Marks)		

Weekly curriculum

Materials included	Week
Launching the Program, ,Microsoft Office Word :General Introductory Basics -Computer Parts Review File, exercises Tabbing	.16

Document, exercises For pages And the appendix head Table, Add with Home, Insert tab, Handle Page tab	.17
Document, exercises For pages And the appendix head Table, Add with Home, Insert tab, Handle Page tab	.18
,Excel, Microsoft Office ,Word document inside the offer Page numbers, page layout tabs, methods ,Insertion exercises , running Excel	.19
inserting a ,Entering data into a worksheet , formatting a worksheet, inserting an image, renaming a worksheet worksheet layout, exercises	.20
First month exam	.21
, insert a comment ,Insert column, insert row, delete rows or columns, hide and show rows and columns exercises	.22
exercises ,Types of protection, data sorting and classification, freezing parts	.23
a presentation, adding animation to the creating , opening PowerPoint ,Microsoft Office PowerPoint presentation, exercises	.24
presentation formatting , slide handling, slide printing, exercises	.25
What is the internet? A brief history of internet development, benefits and advantages of the internet, some .terms, definition of networks, and ways to access the World Wide Web important	.26
Network search, file types on the net, internet connection ,Advantages and components of browsers requirements, exercises	.27
exercises ,Email , stages of sending emails, parts of an email address	.28
Viruses, how to deal with the threat of viruses, the most dangerous types of viruses, exercises	.29
Second monthly exam	.30

Learning and teaching resources		
Available in the library	Titles	
Yes	applications Computer basics and office book Computer and Internet Unit Curriculum	Required books
Yes	Computer basics and office applications	Recommended books
https://www.rwaq.org http://www.cprogramming.comebooks.com/12082-free-book		Electronic sources

Grade chart				
Definition	% Grade	Appreciation		The group
Performance Excellent/Outstanding	90 - 100	privilege -ح		degree success (50 - 100)
Above average with some errors	80 - 89	very good -خ		
Good work with some noticeable errors	70 - 79	good -ب		
Acceptable, but it suffers from significant .shortcomings	60-69	middle -د		
.The work meets minimum standards	50-59	acceptable -ج		
More work is needed, but accreditation .has been granted	(45-49)	(Sediment (under processing		Failure grade (0 – 49)
It requires a large amount of work	(0-44)	Precipitate		

to the nearest whole mark. Note: Marks with decimal places greater than or less than 0.5 will be rounded up or down e.g., a mark of 54.5 will be rounded up to 55, while a mark of 54.4 will be rounded up to 54). The university has a "near-policy against exceeding near failure", so the only adjustment to marks awarded by the original -failure ("near-policy against exceeding near failure") will be the automatic rounding described above.

Unit Description Template

Course description template

Unit Information					
Course Information					
Unit Title	Dates and sugar industry		Unit delivery		
Unit type	essence		Theory ☒ Lecture ☒ Laboratory ☒ Educational program ☐ work My Seminar ☐		
Unity symbol	DTPR317				
European Credit Transfer System (ECTS) units					
SWL (hour/half month)					
Unit level		Ugandan 2 11 shillings			Delivery semester
Administration		Food science	college	Agriculture College of	
Unit Commander	Raghad Saad Moussa		Email	raghad.saad@uobasrah.edu.iq	
Academic title of unit commander		lecturer	Unit Commander Qualifications		master
Unit teacher	Raghad Saad Moussa		Email	raghad.saad@uobasrah.edu.iq	
Name of peer reference			Email	Email	
Date of approval by the Scientific Committee			issue number		

Relationship with other units			
.It is compatible with other study materials			
Required course unit	no one	semester	
Basic Requirements Unit	no one	semester	

Unit objectives, learning outcomes, and guidance content	
Study objectives, learning outcomes, and experimental content	
Unit goals Study objective	- Introducing students to the chemical composition and nutritional importance of dates. - Learn about the history of dates, their names, and the countries that produce and export them. - Learn about the types of dates, their morphological characteristics, and their classification. - Learn about the types of insects that infest dates and how to treat them. - Dates are used as raw materials in industrial processes, such as the production of various food products like date syrup, vinegar, alcohol, sweets, and jam. - Learn about the different date processing operations, such as ripening, moistening, drying, and others.
Learning outcomes for the unit Intermediate education outcomes	By the end of this lesson, the student will be able to: -1 Provide a historical overview of palm trees -2 Understanding the origin of palm trees in Iraq -3 Explore date production around the world and in some Arab countries. -4 Analysis of the reality of date cultivation and production in Iraq -5 Reproduction using tissue culture -6 pollination of palm trees -7 Understanding the stages of fruit growth and ripening -8 Understanding the water needs of palm trees for irrigation and land maintenance practices -9 Providing proper care for palm trees -10 Fertilize the palm trees -11 Harvest dates -12 Implementing date storage and processing operations -13 Preserving palm trees and producing dates -14 pollination of palm trees -15 Understanding the stages of fruit growth and ripening -16 Understanding the water needs of palm trees for irrigation and land maintenance practices -17

	Providing proper care for palm trees -18 Understanding the importance of the nutritional value of the ingredients and their proportions -19 honey production Dates and -20 Disadvantages of Honey Dates -21 Standard specifications for honey dates -22 Date processing with honey -23 Identify the insects that infest the roots, trunks, fronds, and stems of palm trees. -24 ☐ Insects that infest fruit in the field. -25 ☐ Pests that affect stored dates. -26 .Pest control methods -27
Guideline Contents Promotional subscriptions	The "Date Theory" course is a fundamental component of the food science curriculum, serving as a reference for students on the basic principles of the date and sugar industries. The course covers the chemical composition of dates and their importance, the history of palm trees and their morphological characteristics, insect pests that affect the crop, and the use of dates as raw materials in various industries, while also clarifying the theoretical foundations of the course and its scientific and practical aspects .

Learning and teaching strategies For education and learning	
Strategies	Theoretical lectures in classrooms, in addition to academic visits. • Presentations and visual materials. • Group discussions. • Learning based on problem-solving, inquiry, and the exchange of ideas. • Report-based and project-based learning.

Student workload (SWL) Pregnancy for a student classified as 15 weeks			
SWL Regulator (Hour/Half Month) Student's expected workload during the semester	109	SWL Regulator (h/w) Bible is studied by the student The .weekly	7
Unstructured SWL (hourly/half-monthly) Unexpected load for the student during	91	SWL Unstructured (h/w) The assumed load for the student is not " ".weekly	6

the semester			
Total weight loss (hours/half a month) student's total workload during the The semester	200		

Unit assessment					
Course Material Assessment					
	like	Time/Number	(Weight (marks	Week due	Relevant learning outcomes
Formative assessment	Short tests	2	(10) %10	and 10 5	Learning objectives 1, 2, 11 ,10
	Duties	2	(10) %10	and 12 2	LO 3, 4, 6, 7
	/ Projects Laboratory	1	(10) %10	continuous	everyone
	a report	1	(10) %10	13	LO5,8 and 10
Final assessment	Midterm exam	Two hours	(10) %10	7	7 -LO 1
	Final exam	hours 3	(50) %50	16	everyone
Overall assessment			(marks 100) %100		

Delivery plan (weekly curriculum)	
Weekly curriculum	
week	Materials included
Week 1	• History of the spread and production of palm trees around the world.
Week 2	Factors for the care of date palms •
Week 3	Factors for the care of date palms
Week 4	Chemical composition of dates
Week 5	First task Nutritional value of dates
Week 6	First task
Week 7	Biological diseases and insect pests that affect palm trees and dates
Week 8	Historical Transactions
Week 9	Date processing methods
Week 10	Methods of processing dates (2) Separating glucose from fructose

Week Eleven	Second task
Week Twelve	A scientific trip to one of the laboratories, factories, or presses dedicated to the production of dates and vinegar.
Week 13	sugar industry
Week Fourteen	Yeast production alcohol industry
Week fifteen	The third task
Week 16	

Delivery plan (Weekly lab syllabus) Weekly laboratory schedule	
week	Materials included
Week 1	• Morphological characteristics of different date varieties
Week 2	Weight measurements of the fruit and pit at different dates
Week 3	Estimating the moisture content in different types of dates
Week 4	Content estimation from different statements of data
Week 5	First task
Week 6	noitcudorp rageniV •
Week 7	• Measuring the acidity of different types of vinegar
Week 8	Extracting sugar juice from dates using different heat treatments
Week 9	Identifying the types of sugars in dates using different methods
Week 10	Second task
Week Eleven	Juice filtration and molasses production
Week Twelve	Production of molasses and study of its sensory properties
Week 13	A scientific trip to one of the laboratories, factories, or presses dedicated to the production of dates and vinegar.
Week Fourteen	The third task

Learning and teaching resources

Learning and teaching resources

	text	Is it available in the library?
Required textbooks (textbooks, if available)	A practical book on date palm technology, prepared by Dr. Ali Ahmed Al-Sahi, Ministry of Higher Education and Scientific Research, University of Basra	Yes
Main references (sources)	Dates and cellulosic palm products industry. Arab Federation of Food Industries, General Secretariat. Iraq. Baghdad. 1985. 339 pages. Authored by: Dr. Hassan Khaled Hassan Al-Akeedi and Dr. Abdul-Moneim Aref Ahmed A lecture series by Professor Dr. Bayan Yassin Al-Abdullah , College of Agriculture, Tikrit University.	Yes
Recommended books and references (scientific journals, reports...)	There are many books and magazines related to dates and their various products.	Yes
Electronic references, websites	Research and journals related to dates, for example, date palms	

Evaluation system

Yin Network

group	degree	Reg	% Signs	identification
Success Group (100 - 50)	Excellent - A	New	100 - 90	Outstanding performance
	Very good - B	very good	89 - 80	Above average with some errors
	Good - C	good	79 - 70	Audio work with noticeable errors
	Satisfactory - D	-	69-60	Good, but it has major flaws.
	Sufficient - e	Hello	59-50	The work meets minimum standards.
Failure Group (49 – 0)	Failure – FX	Central) CPU (Processing Unit	(49-45)	It requires more work, but recognition will be given.
	Failure – F	Raspi	(44-0)	It requires a great deal of work

Note: Decimal marks that are 0.5 above or below the nearest whole mark will be rounded up or down (e.g., 54.5 will be rounded up to 55, while 54.4 will be rounded up to 54). The university has a zero-tolerance policy for "marks close to passing or failing," so the only adjustment to the marks awarded by the original examiner will be the automatic rounding described above.

MODULE DESCRIPTION FORM

Course description template

Module Information				
Course Information				
Module Title Course Title	Physical Chemistry		Module Delivery teaching the / Method of presenting educational unit	
Module Type Course type	essential		theoretical ☒ a lecture ☐ laboratory ☐ problem solving - Practical ☐ practical ☐ Episodes - Discussion ☐	
Module Code Course code	PHCH219			
ECTS Credits	6			
SWL (hr/sem) Student's academic hours) workload (semester /	150			
Module Level Course level	UGx 11 1	Semester of Delivery semester	1	
Administering Department Section	Food Science	College College	College of Agriculture	
Module Leader Course Instructor	Basit Falih Hassan Abdul		e-mail mail-e	abdulbasit.hasan@uobasrah.edu.iq
Module Leader's Acad. Title Scientific title	teacher	Module Leader's Qualification Certificate	doctor	
Module Tutor	Abdul Basit Falih	e-mail	abdulbasit.hasan@uobasrah.edu.iq	

The professor in charge of the course			
Peer Reviewer Name Scientific Reviewer's Name		e-mail	
ApprovalScientific Committee the date Date		Version Number	

Relation with other Modules			
Relationship with other study subjects			
Prerequisite module prerequisite Required course unit	None	Semester semester	
Co-requisites module synchronous study unit	None	Semester semester	

Module Aims, Learning Outcomes and Indicative Contents	
Course objectives, learning outcomes, and guidance content	
Module Objectives Course Objectives	Introducing students to the subject of physical chemistry • . Statistically 1 . of food products, according to the content of the physical chemistry curriculum, it in by giving a detailed overview of it, how to handle it, and how to utilize .various food industries To introduce students to the physical chemistry of food products, • including the applications of physical chemistry to solutions or biological fluids such found within living organisms, whether plant or animal, or their products .as foodstuffs like meat, milk, vegetables, and fruits Gaining experience in the field of physical food chemistry qualifies him to work . in quality control laboratories
Module Learning Outcomes Learning outcomes for the subject	:be able to The student will and the steps of physical chemistry Explanation of the basics of -1 analysis Comparison of qualitative and quantitative analysis -2 Knowledge of acids and bases, their theories, and interpretation of -3 their behavior

	and how position and structure of the buffers of the compound to calculate their weight Expressing methods of analysis using titration
Indicative Contents Main topics of the course	chemistry physical composition of Searching for advanced methods to measure the chemical -1 natural and synthetic materials using techniques to identify the substances that .may be present in a material, and to determine their quantities accurately Quantitative Analysis: This includes an explanation of the technique that -2 mathematical and statistical modeling, measurement, and research to uses m .understand the behavior of acids and bases Chemical equilibrium: This refers to the state of a system in which the -3 change concentration of reactants and the concentration of products do not c .over time

Learning and Teaching Strategies Learning and teaching strategies	
Strategies Methods or work plan	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* Utilizing the office hours of the theoretical subject teacher to answer * student questions. The modern teaching strategy includes achieving and teaching chemical concepts in learning objectives in general a particular, as well as the difficulties that students face in understanding and acquiring chemical concepts, and addressing the difficulties by defining chemical concepts and helping students acquire the correct .nceptschemical co

Student Workload (SWL) . weeks15 The student's academic workload is calculated for			
Structured SWL (h/sem) / hours) Student's structured workload (semester	93	Structured SWL (h/w) load Student's regular weekly study	2

Unstructured SWL (h/sem) academic unstructured Student's (semester / hours) workload	57	Unstructured SWL (h/w) load for the student Irregular weekly study	1.3
Total SWL (h/sem) during the semester workload academic	150		

Module Evaluation					
Course Material Assessment					
As		NumberTime/	Weight (Marks) Grade	Week Due Delivery) (week	Relevant Learning Relevant Outcome educational output
Formative assessment Formative assessment	short Quizzes ((tests	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Homework assignments	2	20% (20)	2 and 12	LO #3, #4 and #6, #7
	. LabProjects /				
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment Final evaluation	Exam Midterm	2hr	10% (10)	7	LO #1 - #7
	Exam Final	3hr	50% (50)	16	All
(final evaluation) Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
Weekly theoretical curriculum	
Week	Material Covered
Week 1	Definition or Introduction to Physical Chemistry
Week 2	General Gas Law
Week 3	Charles' law Boyle's law and –Derivation of the general law of gases
Week 4	Solutions and Methods of Expressing -Examples and Problems -Dalton's Law of Partial Pressure Concentrations
Week 5	law of mass action -Chemical equilibrium
Week 6	First exam
Week 7	pH -Water ionization -Ionic balance
Week 8	buffer solutions -Dissociation of weak acids

Week 9	Liquid vapor pressure and methods of measurement -Liquid state
Week 10	Ideal Solutions-Non –Raoult's Law
Week 11	Increase in boiling point and decrease in freezing point
Week 12	osmotic pressure
Week 13	The First, Second, and Third Laws of Thermodynamics -Thermodynamics
Week 14	General introduction to artificial intelligence
Week 15	Second exam
Week 16	review

Delivery Plan (Weekly Lab. Syllabus) Weekly laboratory schedule	
Week	Material Covered
Week 1	Methods for calculating experiments
Week 2	refractive index
Week 3	The rotation of polarized light
Week 4	Measuring light intensity
	surface tension
	viscosity
	Buffer solutions and their capacity
Week 5	First test
Week 6	Homogeneity of solutions
	High boiling point
	Dissociation constant of weak acids
	Dissociation constant of weak acids
	osmotic pressure
Week 7	Buffer solutions and their capacity
	Second exam

Learning and Teaching Resources resources Learning and teaching		
	Text Titles	Available in the Library? Available in the library
Required Texts Required books	Chemistry Physical Fundamentals of Chemistry Principles of Chemistry	Yes

Recommended Texts Recommended books	Chemistry Physical Modern	No
Websites Electronic sources		

Grading Scheme Grade chart				
Group	Grade	Appreciation	Marks %	Definition
Success Group (50 - 100) Passing grade	A - Excellent	privilege	90 - 100	Outstanding Performance Outstanding Performance / Excellent
	B - Very Good	very good	80 - 89	Above average with some errors Above average with some errors
	C - Good	good	70 - 79	Sound works with notable errors Good work with some noticeable errors
	D - Satisfactory	middle	60-69	Fair but with major shortcomings it suffers from significant Acceptable, but .shortcomings
	E - Sufficient	acceptable	50-59	Work meets minimum criteria .The work meets minimum standards
Fail Group Failure (0 – 49) grade	FX – Fail	under) Precipitate (processing	(45-49)	More work required but credit awarded More work is needed, but accreditation .has been granted
	F – Fail	Precipitate	(0-44)	Considerable amount of work required It requires a large amount of work
or down to the nearest whole mark will be rounded up 0.5 Marks with decimal places greater than or less than : Note The university has a .(54 will be rounded up to of 54.4 while a mark , 55 will be rounded up to of 54.5 e.g., a mark) t to marks awarded by the original so the only adjustmen , (" failure-near ") failure-policy against exceeding near .invigilator will be the automatic rounding described above				

MODULE DESCRIPTION FORM

Course description template

Module Information Course Information		
Module Title	Fundamentals of Microbiology	Module Delivery

Course Title				teaching the / Method of presenting educational unit	
Module Type Course type	essential			theoretical ☒ a lecture ☐ laboratory ☐ problem solving - Practical ☐ practical ☐ Episodes - Discussion ☐	
Module Code Course code	MICB218				
ECTS Credits	6				
SWL (hr/sem) Student's academic hours) workload (semester /	150				
Module Level Course level		UGx 11 1	Semester of Delivery semester		1
Administering Department Section		Food Science	College College	College of Agriculture	
Module Leader Course Instructor	Zainab Abdul Ali		e-mail mail-e	zainab.abdali @uobasrah.edu.iq	
Module Leader's Acad. Title Scientific title		assistant professor	Module Leader's Qualification Certificate		Doctor
Module Tutor The professor in charge of the course	Zainab Abdul Ali		e-mail	zainab.abdali @uobasrah.edu.iq	
Peer Reviewer Name Scientific Reviewer's Name			e-mail		
ApprovalScientific Committee the date Date			Version Number		

Relation with other Modules			
Relationship with other study subjects			
Prerequisite module Required prerequisite	None		Semester semester

course unit			
Co-requisites module synchronous study unit	None	Semester semester	

Module Aims, Learning Outcomes and Indicative Contents Course objectives, learning outcomes, and guidance content	
Module Objectives Course Objectives	Introducing students to the different aspects of microbiology, starting with ? .bacteria, fungi, and viruses Familiarity with all information related to microorganisms ? fundamentals and diversity in To give the student a clear picture of the ? microbiology, the importance of these organisms, and their impact on the .environment s
Module Learning Outcomes Learning outcomes for the subject	To be able to understand and comprehend the lesson and answer the next week questions To be able to understand and comprehend the lesson and answer the questions next week
Indicative Contents Main topics of the course	: Microbiology Fundamentals Scope of of microscopic structure Searching for advanced methods to measure the -1 natural and artificial materials using techniques to identify the substances that .may be present in a material, and to determine their quantities accurately This includes an explanation of the technique that uses : Diagnosis -2 al modeling, measurement, and research to mathematical and statistic .understand the behavior of acids and bases This refers to the state of the system in which the : Culture media identifiers -3 concentration of reactants and the concentration of products do not change .over time

Learning and Teaching Strategies

Learning and teaching strategies	
Strategies Methods or work plan	The curriculum includes teaching scientific and practical information, including properties of historical information on the beginnings of microbiology, the nature and microorganisms, the classification and importance of microorganisms, the characteristics of cellular microorganisms and their similarities and differences, the diversity of their forms, growth and reproduction, factors affecting growth and methods of stopping their activity and killing them, methods of estimating the growth of celled organisms, the basics of bacterial classification, and an overview of -of single .microorganisms in the air, soil, water, sewage, and food

Student Workload (SWL)			
15 weeks The student's academic workload is calculated for			
Structured SWL (h/sem) / hours) Student's structured workload (semester	93	Structured SWL (h/w) load Student's regular weekly study	2
Unstructured SWL (h/sem) academic unstructured Student's (semester / hours) workload	57	Unstructured SWL (h/w) load for the student Irregular weekly study	1.3
Total SWL (h/sem) during the semester workload academic	150		

Module Evaluation					
Course Material Assessment					
As		NumberTime/	Weight (Marks) Grade	Week Due Delivery) (week	Relevant Learning Relevant Outcome educational output
Formative assessment Formative assessment	short Quizzes (tests	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Homework assignments	2	20% (20)	2 and 12	LO #3, #4 and #6, #7
	. LabProjects /				
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment Final evaluation	Exam Midterm	2hr	10% (10)	7	LO #1 - #7
	Exam Final	3hr	50% (50)	16	All
(final evaluation)Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) Weekly theoretical curriculum	
Week	Material Covered
Week 1	Microbiology
Week 2	The phenotypic (morphological) characteristics of bacteria
Week 3	Internal structure
Week 4	Bacterial growth and reproduction
Week 5	Bacterial families
Week 6	First exam
Week 7	fungi
Week 8	yeasts
Week 9	algae
Week 10	viruses
Week 11	Control of microorganisms
Week 12	Nutrition of microorganisms
3Week 1	General introduction to artificial intelligence
4Week 1	Second exam
of Week 1 5	review

Delivery Plan (Weekly Lab. Syllabus) Weekly laboratory schedule	
Week	Material Covered
Week 1	General Introduction
Week 2	Reviewing the most important aspects of the Fundamentals of Microbiology course
Week 3	nutrient media
Week 4	microorganisms Cultivation of some
5Week	Simple dyeing
6Week	microscope
7Week	
8Week	First monthly exam
9Week	How to make reductions

10Week	Count the cells of the colonies
11Week	. The most important methods of sterilization
12Week	Stages of microbial growth
13Week	The effect of environmental factors on the growth of microorganisms
Week 7	Microbial control
	Second exam

Learning and Teaching Resources		
Learning and teaching resources		
	Text Titles	Available in the Library? Available in the library
Required Texts Required books	Fundamentals of Migration Biology	Yes
Recommended Texts Recommended books	Microbiology	No
Websites Electronic sources		

Grading Scheme				
Grade chart				
Group	Grade	Appreciation	Marks %	Definition
Success Group (50 - 100) Passing grade	A - Excellent	privilege	90 - 100	Outstanding Performance Outstanding Performance / Excellent
	B - Very Good	very good	80 - 89	Above average with some errors Above average with some errors
	C - Good	good	70 - 79	Sound works with notable errors Good work with some noticeable errors
	D - Satisfactory	middle	60-69	Fair but with major shortcomings Acceptable, but it suffers from significant .shortcomings
	E - Sufficient	acceptable	50-59	Work meets minimum criteria .standards The work meets minimum
Fail Group Failure (0 – 49) grade	FX – Fail	under) Precipitate (processing	(45-49)	More work required but credit awarded More work is needed, but accreditation .has been granted
	F – Fail	Precipitate	(0-44)	Considerable amount of work required It requires a large amount of work

or down to the nearest whole mark will be rounded up 0.5 Marks with decimal places greater than or less than : Note The university has a .(54 will be rounded up to of 54.4 while a mark , 55 will be rounded up to of 54.5 e.g., a mark) so the only adjustment to marks awarded by the original , (" failure-near ") failure-policy against exceeding near .invigilator will be the automatic rounding described above

MODULE DESCRIPTION FORM

Course description template

Module Information				
Course Information				
Module Title Course Title	Principles of Statistics		Module Delivery teaching the / Method of presenting educational unit	
Module Type Course type	essential		theoretical ☒ a lecture ☐ laboratory ☐ problem solving - Practical ☐ practical ☐ Episodes - Discussion ☐	
Module Code Course code	C2210 0			
ECTS Credits	6			
SWL (hr/sem) Student's academic hours) workload (semester /	150			
Module Level Course level	UGx 11 1	Semester of Delivery semester	1	
Administering Department Section	Food Science	College College	College of Agriculture	
Module Leader Course Instructor	Wael Ali Sawadi		e-mail mail-e	
Module Leader's Acad. Title Scientific title	teacher	Module Leader's Qualification Certificate	doctor	
Module Tutor The professor in			e-mail	

charge of the course			
Peer Reviewer Name Scientific Reviewer's Name		e-mail	
Approval Scientific Committee date the Date		Version Number	

Relation with other Modules Relationship with other study subjects			
Prerequisite module Required prerequisite course unit	None	Semester semester	
Co-requisites module synchronous study unit	None	Semester semester	

Module Aims, Learning Outcomes and Indicative Contents Course objectives, learning outcomes, and guidance content	
Module Objectives Course Objectives	Data Collection and Organization: Acquiring skills in collecting field or digital and arranging it in tables and graphs to facilitate reading data, then tabulating and understanding. Descriptive and Numerical Analysis (Descriptive Statistics): Calculating measures of central tendency (such as mean and ation) to describe median) and measures of dispersion (such as standard devi the characteristics of the study population. Inference and Decision Making Inferential Statistics): The student's ability to generalize results obtained from) a small sample to the entire population and test the validity of scientific potheses. Forecasting and Future Planning: Using regression and time hy series models to predict future trends in various fields (such as economics, social sciences, and medicine). Working with Statistical Software: Training .analysis applications and packages students in the use of statistical

Module Learning Outcomes Learning outcomes for the subject	The student will be able to Understanding basic statistical concepts: a clear distinction between population and sample, quantitative and qualitative variables, and different levels of measurement Understanding the types of statistical analysis: Understanding the difference in descriptive statistics and inferential statistics and when to use each between Understanding sampling and probability methods: Comprehending sampling methods and selecting the appropriate ones, and understanding the basic laws of distribution of probability and probability distribution of statistics
Indicative Contents Main topics of the course	An introduction to statistics, its importance and applications (Data types (quantitative, qualitative, discrete, continuous) Methods of data collection and its sources (Types of statistical samples (random, stratified, systematic

Learning and Teaching Strategies Learning and teaching strategies	
Strategies Methods or work plan	achieving learning objectives in general The modern teaching strategy includes and teaching objectives in particular, identifying types of standards, media, patterns and random sectors in the experiment and agricultural service h plant, processes, identifying the appropriate environment for growing each and helping students acquire the correct scientific concepts for growing and caring for plants

Student Workload (SWL) 15 weeks The student's academic workload is calculated for			
Structured SWL (h/sem) / hours) Student's structured workload (semester	93	Structured SWL (h/w) load Student's regular weekly study	2
Unstructured SWL (h/sem) academic unstructured Student's (semester / hours) workload	57	Unstructured SWL (h/w) load for the student Irregular weekly study	1.3
Total SWL (h/sem) during the semester workload academic	150		

Module Evaluation					
Course Material Assessment					
As		NumberTime/	Weight (Marks) Grade	Week Due Delivery) (week	Relevant Learning Relevant Outcome educational output
Formative assessment Formative assessment	short Quizzes ((tests	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Homework assignments	2	20% (20)	2 and 12	LO #3, #4 and #6, #7
	. LabProjects /				
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment Final evaluation	Exam Midterm	2hr	10% (10)	7	LO #1 - #7
	Exam Final	3hr	50% (50)	16	All
(final evaluation) Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
Weekly theoretical curriculum	
Week	Material Covered
Week 1	Statistics to Introduction
Week 2	Mode, Median, Arithmetic Mean
Week 3	. An introduction to statistics, its importance and applications
Week 4	.(Types of statistical samples (random, stratified, systematic
Week 5	.(charts Tabular and graphical presentation (frequency tables, histograms, pie
Week 6	First exam
Week 7	(of centrality (arithmetic mean, median, mode Measures
Week 8	: (and prediction (correlation and regression Relationships
Week 9	.(Time series and index numbers (in some advanced or economics courses
Week 10	Pearson and Spearman correlation coefficients measure the strength and direction of the . relationship between variables
Week 11	ANOVA)) of variance Analysis
Week 12	. (dispersion (range, variance, standard deviation, coefficient of variation Measures of
Week 13	(Relative position scales (quartiles, percentiles
Week 14	(For tabular and graphical display (frequency tables, histograms, pie charts

Week 15	Second exam
Week 16	review

Delivery Plan (Weekly Lab. Syllabus) Weekly laboratory schedule	
Week	Material Covered
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	First test
Week 6	
Week 7	

Learning and Teaching Resources Learning and teaching resources		
	Text Titles	Available in the Library? Available in the library
Required Texts Required books	Statistics book	Yes
Recommended Texts Recommended books	Internet sources	No
Websites Electronic sources		

Grading Scheme Grade chart				
Group	Grade	Appreciation	Marks %	Definition
Success Group (50 - 100) Passing grade	A - Excellent	privilege	90 - 100	Outstanding Performance Outstanding Performance / Excellent
	B - Very Good	very good	80 - 89	Above average with some errors Above average with some errors
	C - Good	good	70 - 79	Sound works with notable errors Good work with some noticeable errors
	D - Satisfactory	middle	60-69	Fair but with major shortcomings

				Acceptable, but it suffers from significant shortcomings
	E - Sufficient	acceptable	50-59	Work meets minimum criteria .The work meets minimum standards
Fail Group Failure (0 – 49) grade	FX – Fail	under) Precipitate (processing	(45-49)	More work required but credit awarded More work is needed, but accreditation .has been granted
	F – Fail	Precipitate	(0-44)	Considerable amount of work required It requires a large amount of work
or down to the nearest whole mark will be rounded up 0.5 Marks with decimal places greater than or less than : Note The university has a .(54 will be rounded up to of 54.4 while a mark , 55 will be rounded up to of 54.5 e.g., a mark) so the only adjustment to marks awarded by the original , (" failure-near ") failure-policy against exceeding near .invigilator will be the automatic rounding described above				

MODULE DESCRIPTION FORM

Course description template

Module Information						
Course Information						
Module Title Course Title	English Language/2		Module Delivery teaching the / Method of presenting educational unit			
Module Type Course type	essential		theoretical ☒ a lecture ☐ laboratory ☐ solving problem - Practical ☐ practical ☐ Episodes - Discussion ☐			
Module Code Course code	ENCH121					
ECTS Credits	6					
SWL (hr/sem) Student's academic hours) workload (semester /	150					
Module Level Course level	UGx 11 1	Semester of Delivery semester	1			
Administering Department Section	Food Science	College College	College of Agriculture			

Module Leader Course Instructor	Abdul Rahman Lafteh	e-mail mail-e	
Module Leader's Acad. Title Scientific title	teacher	Module Leader's Qualification Certificate	doctor
Module Tutor professor in The charge of the course		e-mail	
Peer Reviewer Name Scientific Reviewer's Name		e-mail	
ApprovalScientific Committee the date Date		Version Number	

Relation with other Modules Relationship with other study subjects			
Prerequisite module Required prerequisite course unit	None	Semester semester	
Co-requisites module synchronous study unit	None	Semester semester	

Module Aims, Learning Outcomes and Indicative Contents Course objectives, learning outcomes, and guidance content	
Module Objectives Course Objectives	Understanding different texts : Developing reading and comprehension skills academic, literary, news), extracting main ideas, and developing speed and) . analytical reading skills Mastering the writing of paragraphs, articles, formal : Developing writing skills e rules, proper structure and letters and emails, while adhering to th . consistency of ideas

	The ability to understand everyday conversations, : Enhancing listening skills lectures, and audio materials in different accents, and to identify important . points and details Building confidence in speaking and : mmunicationMastering speaking and co expressing opinions fluently, and participating in discussions and . presentations Building a broad :(Grammar & Vocabulary) Mastering linguistic construction rules correctly in different vocabulary and using grammatical and syntactic .contexts
Module Learning Outcomes Learning outcomes for the subject	: Writing Outcomes (Paragraphs & Formulating coherent and organized paragraphs and essays Essays). Writing official correspondence such as emails and reports with linguistic . accuracy . and punctuation marks correctlytransition words Use : Listening Outcomes . Understanding audio conversations and lectures in different English dialects . while listeningtaking notes points and Extracting key Distinguishing between different tones and expressions and determining the . purpose of the audio text : Speaking Outcomes . Expressing opinions and ideas fluently and clearly in different situations . participating in group discussionsand ationsGiving present Using correct pronunciation and appropriate vocal intonation to convey . meaning outputsand practical Cognitive
Indicative Contents Main topics of the course	Grammar, spelling, and speaking

Learning and Teaching Strategies Learning and teaching strategies	
Strategies Methods or work plan	

Student Workload (SWL) . weeks15 The student's academic workload is calculated for			
Structured SWL (h/sem) / hours) Student's structured workload (semester	93	Structured SWL (h/w) load Student's regular weekly study	2

Unstructured SWL (h/sem) academic unstructured Student's (semester / hours) workload	57	Unstructured SWL (h/w) load for the student Irregular weekly study	1.3
Total SWL (h/sem) during the semester workload academic	150		

Module Evaluation					
Course Material Assessment					
As		NumberTime/	Weight (Marks) Grade	Week Due Delivery) (week	Relevant Learning Relevant Outcome educational output
Formative assessment Formative assessment	short Quizzes ((tests	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Homework assignments	2	20% (20)	2 and 12	LO #3, #4 and #6, #7
	. LabProjects /				
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment Final evaluation	Exam Midterm	2hr	10% (10)	7	LO #1 - #7
	Exam Final	3hr	50% (50)	16	All
(final evaluation) Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
Weekly theoretical curriculum	
Week	Material Covered
Week 1	RulesGrammar Basic
Week 2	Present, Past, Simple and Continuous. :Basic tenses
Week 3	. uncountable nouns and articlesCountable and
Week 4	Forms (Going to / Will). and FuturePresent Perfect
Week 5	.(Can, Could, Should, Must) Modal verbs
Week 6	First exam
Week 7	.(Pronouns & Prepositions) Hail of pronouns and adverbs of time and place
Week 8	: SkillsReading and Vocabulary

Week 9	. length texts and general or specialized articles-Reading short to medium
Week 10	(Scanning). and specific details(Skimming) Extracting key ideas
Week 11	(Phrasal Verbs & Collocation) Building common vocabulary and structures
Week 12	:skills Writing and expression
Week 13	. constructing the correct sentence and avoiding common mistakes By
Week 14	.marks with the use of punctuation (Paragraph Structure) Writing a coherent paragraph
Week 15	Second exam
Week 16	review

Delivery Plan (Weekly Lab. Syllabus) Weekly laboratory schedule	
Week	Material Covered
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources Learning and teaching resources		
	Text Titles	Available in the Library? Available in the library
Required Texts Required books	Chemistry Analytical Fundamentals of Analytical Chemistry Analytical Chemistry Principles of	Yes
Recommended Texts Recommended books	Modern Analytical Chemistry	No
Websites Electronic sources		

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