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

2024

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 staP 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, quaJerly), 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: Tikrit University

Faculty/Institute: College of Food Sciences, Shirqat

Scientific Department: Food Science and Technology

Academic or Professional Program Name: Bachelor's in Food Science

Final Certificate Name: Bachelor's of Food Science and Technology

Academic System: courses

Description Preparation Data: 2024-10-1

Completion Date: 10-11-2024

جامعة تكريت
كلية علوم الاغذية / الشرقاط
قسم علوم وتكنولوجيا الاغذية

Signature:

Head of Department Name: Dr. Mohanad Mahdi Jumaa

Date: 10-11-2024

Signature:

Scientific Associate Name: Assis. Prof. Sami khudhur saeed

Date: 10-11-2024

كلية علوم الاغذية / الشرقاط
شعبة ضمان الجودة وتقييم الاداء

The file is checked by:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department: Lecturer Abdullah Mahmoud Ajil

Date: 2024-11-10

Signature:

Approval of the Dean

أ.م.د. سامي خضر سعيد
العميد / وكاله

1. Program Vision

The College of Food Sciences/Al-Shirqat was established in 2024, and studies commenced in the academic year 2024-2025. The college aims to prepare students for obtaining a bachelor's degree in Food Sciences, enabling graduates to work in scientific institutions, food and dairy factories, with a comprehensive understanding of local food production in Iraq. Faculty members in the Department of Food Science and Technology/College of Food Sciences Al-Shirqat at Tikrit University affirm that students benefit from the Food Sciences specialization through a blend of academic study, practical experiences, and scientific experiments. This combination enhances students' understanding of the scientific and practical methods used by food specialists in conducting research and developing ideas related to the food industry, particularly in Iraq.

2. Program Mission

Faculty members at the College of Food Sciences/Al-Shirqat at Tikrit University undertake a multifaceted mission, with the program aiming to provide all students with foundational knowledge in food technology. This includes a focus on academic and research aspects, both in undergraduate and graduate studies, alongside academic and applied research development. The program addresses challenges related to manufacturing processes, enhancing students' ability to understand real-world industry challenges and preparing them to confront them with innovative and scientific solutions. In addition to the guiding role in serving and advancing work in food science and technology, the college's activities extend to other areas, such as conducting scientific research and providing suitable proposals to solve problems related to food technology. The college also organizes specialized training courses in this field. The curricula are designed to be appropriate for preparing graduates for their professional future, whether they choose to work as specialists in the food industry or pursue advanced degrees in food and dairy sciences. This design aims to enhance students' skills, prepare them to face market challenges and work effectively in their respective fields.

3. Program Objectives

1. Preparing specialized cadres and researchers to work in scientific and governmental institutions, as well as in private factories, laboratories, and research centers focused on food science and technology. This also provides graduates with opportunities to work in health institutions under the Ministry of Health.
2. Providing comprehensive education in food science and technology, focusing

on scientific thinking and problem-solving across a broad range of disciplines.

3. Conducting applied research to address industrial problems and improve the quality of production processes in factories and companies operating in the food manufacturing and preservation sector.
4. Training specialized cadres to work in health control and food fraud prevention departments by equipping graduates with the necessary skills to manage quality control departments. This includes understanding modern systems such as Good Manufacturing Practices (GMP), Hazard Analysis and Critical Control Points (HACCP), and other relevant standards.
5. Preparing students for a variety of post-graduate pathways, including specialized fields such as graduate studies, as well as developing practical and technical skills through training in laboratories, food factories, or quality management. It also includes opportunities for employment in the private sector, such as engaging in food manufacturing companies or in marketing and food consulting.
6. Organizing specialized conferences and scientific seminars on food safety and human nutrition, which enhances the exchange of experiences in the fields of food and dairy science and technology. This includes collaboration with local, national, and global institutions specializing in this field, contributing to the development of innovative solutions and the enhancement of quality and safety standards in the food industry.

4. Program Accreditation

There is no

5. Other external influences

There is no

6 Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews•

Institution Requirements	7	18	7.5	
College Requirements	8	50	20.83	
Department Requirements	30	172	71.66	
Summer Training				Summer Internship for the third year without credits, only 'Pass' or 'Fail
Other				

7. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
First Year / First Semester	UOT1101	Arabic language	2	
First Year / First Semester	TUFSFT1102	Physics	2	2
First Year / First Semester	TUFSFT1103	Organic chemistry	2	2
First Year / First Semester	UOT003	Computer	2	2
First Year / First Semester	TUFSFT1105	Mathematics	2	
First Year / First Semester	TUFSFT1106	Microbiology	2	2
First Year / Second Semester	TUFSFT1207	English Language	2	
First Year / Second Semester	TUFSFT1208	Analytical Chemistry	2	2
First Year / Second Semester	TUFSFT1209	Biostatistics	2	2
First Year / Second Semester	TUFSFT12010	safty and Biosecurity	2	2
First Year / Second Semester	TUFSFT12011	Human Rights and Democracy	2	
First Year / Second Semester	TUFSFT12012	Principles of Engineering	2	2
Second Year / First Semester	TUFSFT23013	Biochemistry	2	2
Second Year / First Semester	TUFSFT23014	Biotechnology	2	2
Second Year / First Semester	TUFSFT23015	Health and Food Safety	2	2
Second Year / First Semester	TUFSFT23016	Food Factory Management and producte Marketing	2	
Second Year / First Semester	TUFSFT23117	Computer Applications in Food Factory	2	2
Second Year / First Semester	UOT1207	English Language	2	
Second Year / First Semester	UOT1101	Arabic language	2	
Second Year / Second Semester	TUFSFT24018	food Packaging	2	2
Second Year / Second Semester	TUFSFT24019	Principles of Food processing	2	2
Second Year /	TUFSFT24020	Physical Chemistry	2	2

Second Semester				
Second Year / Second Semester	TUFSFT24021	Nanotechnology	2	2
Second Year / Second Semester	TUFSFT24022	Engineering of food and dairy factory	2	2
Second Year / Second Semester	UOT1104	Computer	2	2
Second Year / Second Semester	TUFSFT24023	Crimes of the Ba'ath Party	2	
Third Year / First Semester	TUFSFT35024	Food Chemistry	2	2
Third Year / First Semester	TUFSFT35025	Cereal Technology	2	2
Third Year / First Semester	TUFSFT35126	Food Microbiology	2	2
Third Year / First Semester	TUFSFT35027	Water Purification and Treatment of Food Factory Waste	2	2
Third Year / First Semester	TUFSFT35028	Care and Storage	2	2
Third Year / Second Semester	TUFSFT36029	Quality control and Assurance	2	2
Third Year / Second Semester	TUFSFT36030	Dairy Chemistry	2	2
Third Year / Second Semester	TUFSFT36031	Dates Technology	2	2
Third Year / Second Semester	TUFSFT36132	Food technology 1	2	2
Third Year / Second Semester	TUFSFT36133	Food Analysis	2	2
Fourth Year / First Semester	TUFSFT47034	Research methodology	2	
Fourth Year / First Semester	TUFSFT47035	Food Additives	2	2
Fourth Year / First Semester	TUFSFT47036	Food Development and Evaluation	2	2
Fourth Year / First Semester	TUFSFT47037	Enzymes	2	2
Fourth Year / First Semester	TUFSFT47038	Human Nutrition	2	
Fourth Year / First Semester	TUFSFT47039	Dairy Technology	2	2
Fourth Year / Second Semester	TUFSFT48140	Research projects	2	2
Fourth Year / Second Semester	TUFSFT48141	Food technology 2	2	2
Fourth Year / Second Semester	TUFSFT48142	Industrial Microbiology	2	2
Fourth Year / Second Semester	TUFSFT48043	Meat Technology	2	2

Fourth Year / Second Semester	TUFSFT48144	Bakery & Pastries	2	2
Fourth Year / Second Semester	TUFSFT48045	Professional Ethics	2	

8. Expected learning outcomes of the program

Knowledge

Graduates will be able to understand the functional composition of food components, the interactions, and the changes that occur in these components. This skill will assist them in analyzing how these interactions affect the quality and safety of food products, enabling them to make informed decisions in the fields of production, preservation, and nutrition.	1. The student must master the basic principles of the required sciences. 2. The student must understand the necessary scientific details related to the subject. 3. The student must be able to analyze new scientific developments.

Skills

Graduates will be able to use laboratory equipment correctly and efficiently while conducting experiments and practical procedures. They will also have the ability to follow appropriate safety protocols to ensure their own safety and the safety of others while working in the laboratory. These skills will contribute to enhancing their ability to analyze data and draw accurate and reliable conclusions.	1. A good understanding of the principles of food industry science and related fields, along with the ability to manufacture various food products. 2. Graduates are capable of conducting laboratory experiments and field studies using scientific requirements and computational techniques. 3. A good familiarity with scientific terminology in the specialization.

Ethics

Scientific Knowledge Graduates will be able to demonstrate a balanced understanding of how scientific and technological knowledge evolves, including the following concepts: • **Conducting practical experiments in food microbiology:** Students will be able to perform tests such as direct microbial counting and total plate count. • **Laboratory experiments in food and dairy chemistry:** Students will be capable of conducting complex experiments related to food quality and food processing operations using a	

variety of laboratory accessories. • **Application of microbiology:** Students will be able to conduct experiments related to general, food, and industrial microbiology. • **Analysis of food components:** Students will be able to conduct experiments related to determining moisture, ash, protein, fats, carbohydrates, and vitamins. • **Management of food production processes:** Students will be able to implement food production processes and procedures while observing appropriate safety protocols, including the principles and fundamentals of food manufacturing. • **Application of nanotechnology:** Students will be able to apply nanotechnology in food and dairy products, as well as understand the technology behind dates, meat, and fish products. • **Human nutrition knowledge:** Graduates will be able to demonstrate a balanced understanding of human nutrition and how modern scientific developments affect our dietary and health habits.	
Outcomes	Commitment to University Institutional Ethics

9. Teaching and Learning Strategies

1. Classroom education through theoretical and practical lectures.
2. Learning through organizing workshops, seminars, and specialized training courses in the field of Food Science and Technology.
3. Preparation of reports and scientific research.

10. Evaluation methods

1. Evaluative examinations.
2. Preparation and scientific discussion of research.
3. Writing reports accurately and in an organized manner.
4. Attendance and participation in daily activities.

11. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	**Lecturer**
Assistant Professor	Food Science	Clinical Nutrition			1	
Assistant Professor	Food Science	Human Nutrition			1	
Lecturer	Food Science	Food Science			1	
Lecturer	Food Science	Food Science			1	
Lecturer	Chemistry	Physical Chemistry			1	
Assistant Lecturer	Agricultural Science	Agricultural Science			1	
Assistant Lecturer	Agricultural Science	Agricultural Science			1	
Assistant Lecturer	Chemistry	Analytical Chemistry			1	

Professional Development

Guiding New Faculty Members

New faculty members should be directed to focus on developing the academic curriculum, improving lecture delivery methods, and adopting effective strategies to communicate scientific material to students.

Professional Development for Faculty Members

Efforts should be made to organize training courses and workshops aimed at enhancing the skills and expertise of faculty members. These initiatives will help improve their teaching abilities and keep them updated with the latest developments in their fields.

12. Acceptance Criterion

The central admission determined by the Ministry of Higher Education and Scientific Research for graduates of preparatory school in the scientific branch.

13. The most important sources of information about the program

1. Textbooks and curriculum prescribed by the Ministry of Higher Education and Scientific Research.
2. External scientific sources.
3. Utilizing libraries and the internet.

14. Program Development Plan

The department prepares academic and research plans aimed at developing the department. These plans are formulated by the department head, the scientific committee, and the department council.

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
First / First course	UOT1101	Arabic language	B	√	√	√	√	√	√	√	√	√	√	√	√
	TUFSFT1102	Physics	B	√	√	√	√	√	√	√	√	√	√	√	√
	TUFSFT1103	Organic chemistry	C	√	√	√	√	√	√	√	√	√	√	√	√
	UOT003	Computer	B	√	√	√	√	√	√	√	√	√	√	√	√
	TUFSFT1105	Mathematics	B	√	√	√	√	√	√	√	√	√	√	√	√
	TUFSFT1106	Microbiology	C	√	√	√	√	√	√	√	√	√	√	√	√
First / Second course	TUFSFT1207	English Language	B	√	√	√	√	√	√	√	√	√	√	√	√
	TUFSFT1208	Analytical Chemistry	C	√	√	√	√	√	√	√	√	√	√	√	√
	TUFSFT1209	Biostatistics	B	√	√	√	√	√	√	√	√	√	√	√	√
	TUFSFT12010	safty and Biosecurity	B	√	√	√	√	√	√	√	√	√	√	√	√
	TUFSFT12011	Human Rights and Democracy	B	√	√	√	√	√	√	√	√	√	√	√	√
	TUFSFT12012	Principles of Engineering	C	√	√	√	√	√	√	√	√	√	√	√	√
Second / First course	TUFSFT23013	Biochemistry	C	√	√	√	√	√	√	√	√	√	√	√	√
	TUFSFT23014	Biotechnology	C	√	√	√	√	√	√	√	√	√	√	√	√
	TUFSFT23015	Health and Food Safety	C	√	√	√	√	√	√	√	√	√	√	√	√
	TUFSFT23016	Food Factory Management and producte Marketing	C	√	√	√	√	√	√	√	√	√	√	√	√
	TUFSFT23117	Computer Applications in Food Factory	C	√	√	√	√	√	√	√	√	√	√	√	√

	UOT1207	English Language	B	√	√	√	√	√	√	√	√	√	√	√	√
	UOT1101	Arabic language	B	√	√	√	√	√	√	√	√	√	√	√	√
Second / Second course	TUFSFT24018	food Packaging	C	√	√	√	√	√	√	√	√	√	√	√	√
	TUFSFT24019	Principles of Food processing	B	√	√	√	√	√	√	√	√	√	√	√	√
	TUFSFT24020	Physical Chemistry	C	√	√	√	√	√	√	√	√	√	√	√	√
	TUFSFT24021	Nanotechnology	C	√	√	√	√	√	√	√	√	√	√	√	√
	TUFSFT24022	Engineering of food and dairy factory	C	√	√	√	√	√	√	√	√	√	√	√	√
	UOT1104	Computer	B	√	√	√	√	√	√	√	√	√	√	√	√
	TUFSFT24023	Crimes of the Ba'ath Party	B	√	√	√	√	√	√	√	√	√	√	√	√
Third / First course	TUFSFT35024	Food Chemistry	C	√	√	√	√	√	√	√	√	√	√	√	√
	TUFSFT35025	Cereal Technology	C	√	√	√	√	√	√	√	√	√	√	√	√
	TUFSFT35126	Food Microbiology	C	√	√	√	√	√	√	√	√	√	√	√	√
	TUFSFT35027	Water Purification and Treatment of Food Factory Waste	C	√	√	√	√	√	√	√	√	√	√	√	√
	TUFSFT35028	Care and Storage	C	√	√	√	√	√	√	√	√	√	√	√	√
Third/second course	TUFSFT36029	Quality control and Assurance	C	√	√	√	√	√	√	√	√	√	√	√	√
	TUFSFT36030	Dairy Chemistry	C	√	√	√	√	√	√	√	√	√	√	√	√
	TUFSFT36031	Dates Technology	C	√	√	√	√	√	√	√	√	√	√	√	√
	TUFSFT36132	Food technology 1	C	√	√	√	√	√	√	√	√	√	√	√	√
	TUFSFT36133	Food Analysis	C	√	√	√	√	√	√	√	√	√	√	√	√
Fourth/ First course	TUFSFT47034	Research methodology	S	√	√	√	√	√	√	√	√	√	√	√	√
	TUFSFT47035	Food Additives	C	√	√	√	√	√	√	√	√	√	√	√	√
	TUFSFT47036	Food Development and Evaluation	C	√	√	√	√	√	√	√	√	√	√	√	√
	TUFSFT47037	Enzymes	C	√	√	√	√	√	√	√	√	√	√	√	√

	TUFSFT47038	Human Nutrition	C	√	√	√	√	√	√	√	√	√	√	√	√
	TUFSFT47039	Dairy Technology	C	√	√	√	√	√	√	√	√	√	√	√	√
Fourth/ Second course	TUFSFT48140	Research projects	B	√	√	√	√	√	√	√	√	√	√	√	√
	TUFSFT48141	Food technology 2	C	√	√	√	√	√	√	√	√	√	√	√	√
	TUFSFT48142	Industrial Microbiology	C	√	√	√	√	√	√	√	√	√	√	√	√
	TUFSFT48043	Meat Technology	C	√	√	√	√	√	√	√	√	√	√	√	√
	TUFSFT48144	Bakery & Pastries	C	√	√	√	√	√	√	√	√	√	√	√	√
	TUFSFT48045	Professional Ethics	S	√	√	√	√	√	√	√	√	√	√	√	√

- **Please tick the boxes corresponding to the individual program learning outcomes under evaluation.**

Course Description Form

1. Course Name:
Arabic Language
2. Course Code:
UOT1101
3. Semester / Year:
First / First
4. Description Preparation Date:
2024-10-1
5. Available Attendance Forms:
In-person
6. Number of Credit Hours (Total) / Number of Units (Total)
50 / 2
7. Course administrator's name (mention all, if more than one name)
Name: Dr. Mohammad Abdullah Ghathwan

8. Course Objectives	
Course Objectives	• Developing love for the Arabic language, the language of the Quran. • Understanding the elements of beauty in the Arabic language and its literature. • Enhancing the ability to study various aspects of the Arabic language. • Learning vocabulary, structure, and the correct style of Arabic. • Developing the ability to read Arabic correctly and use the language effectively in communication to improve presentation and expression. • Enhancing students' literary sense so they can recognize the aesthetic aspects in presentation and meaning. • Improving students' spelling and handwriting skills. • Enabling students to understand complex linguistic structures and ambiguous forms of expression and to think critically. • Teaching students to follow the rules of dialogue and respect differing viewpoints.

9. Teaching and Learning Strategies	
Strategy	I will use various teaching methods ranging from traditional to modern ones: 1. **Inductive Method:** This method starts from specific examples and reaches general conclusions. It begins by presenting diverse grammatical examples related to a specific topic on the board and explaining them interactively

	with students, allowing conclusions to be drawn naturally. 2. **Discovery Learning Method:** This method is the opposite of rote learning. In this case, the student is responsible for discovering knowledge and reaching conclusions independently. 3. **Dialogue Method:** This method depends on dialogue and discussion between the teacher and the students. I will prepare a series of questions related to the topic to help the student be prepared for the lesson and reach correct answers.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Arabized and indeclinable nouns, verbs: past, present, and imperative; meaningful and structural letters.	Parts of Speech: Noun, Verb, Preposition	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
2	2	Diacritical marks: damma (ُ), fatha (َ), kasra (ِ), and sukun (ْ); alif, waw, and ya; the addition and omission of the nun.	Original and Derivative Case Markers	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
3	2	Dualization of nouns, their declension signs, and their analogous forms.	Dual Forms	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
4	2	Nouns and their declension signs, along with their analogous forms in both masculine and feminine plural.	Masculine Plural	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
5	2	The difference between indefinite and definite nouns, their categories, and how to convert an indefinite noun to a definite one.	Feminine Plural	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
6	2	The five verb forms, their conjugations, and their declension signs.	Indefinite and Definite Nouns	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework

7	2	Types of hamza on alif, waw, ya, and on the line, with clarification of some common misused words and their corrections	The Five Verbs	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
8	2	Midterm Exam	Midterm Exam	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
9	2	Rules for Writing Hamza and Correcting Common Language Errors	Rules for Writing Hamza and Correcting Common Language Errors	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
10	2	Sections of numerical sentences and types of numbers.	Numbers and Their Nouns	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
11	2	Tied and untied ta’ and the difference between them.	Rules for Writing the Letter "T" at the End of a Word	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
12	2	An overview of literature in the Islamic era, including the poem Banat Su’ad by Ka’b bin Zuhayr.	Literature in the Islamic Era	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
13	2	A poem by Abdul Baqi Al-Omari in praise of Imam Ali (peace be upon him).	Memorizing a Poem about Imam Ali (PBUH)	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
14	2	The definition of rhetoric, Its founders, and the science of embellishment (al-badi’).	Rhetorical Arts and Their Techniques	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
15	2	Diacritical marks: damma, fatha, kasra, sukun; alif, waw, ya; the addition and omission of the nun.	Original and Derivative Case Markers (Repeated)	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework

11. Course Evaluation

Module Evaluation					
As		**Time/Number**	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	3	10% (10)	3,7 and 14	LO #2 and #6 #13
	Assignments	2	10% (10)	5 and 12	LO #4 and #11
	نشاط لاصفي	1	10% (10)	13	LO #12
	Report	1	10% (10)	11	LO #7 #9 and #10
Summative assessment	**Midterm Exam**	2hr	10% (10)	8	LO #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

12. Learning and Teaching Resources

Learning and Teaching Resources		
	Text	**Available in the Library?**
Required Texts	البلاغة فنونها وافنانها علم البيان والبديع . د. غضل حسن عباس، دار الفرقان للنشر والتوزيع ، 2005، عمان – الأردن الشامل في اللغة العربية ، د.عبدالله النقراط، دار قتيبة ط1، 2003	yes
Recommended Texts	العربية الجامعية لغير المختصين، د.عبده الراجحي، دار النهضة الحديثة، بيروت-لبنان، 2007	no
Websites	https://www.almrsal.com/post/874898 https://kenoozarabia.com/2019/12/20/	

Course Description Form

1. Course Name:
Computer 1
2. Course Code:
UOT003
3. Semester / Year:
First / First
4. Description Preparation Date:
2024-10-1
5. Available Attendance Forms:
In-person
6. Number of Credit Hours (Total) / Number of Units (Total)
75 / 3
7. Course administrator's name (mention all, if more than one name)
Name: Saad Ahmad Khalaf

8. Course Objectives

Course Objectives	• Using computers to enhance students' skills. • Learning the basic concepts related to computers. • Analyzing the application software used for preparing reports, research papers, and graduation projects, with a focus on applications like Microsoft Word, PowerPoint, and Excel. • Learning the basic concepts of using the internet and enabling students to search for topics and materials online.

9. Teaching and Learning Strategies

Strategy	The main strategy used in this course is to encourage students to use computers effectively and understand how they work. It also aims to improve and expand critical thinking skills. These objectives are achieved through interactive teaching, practical lessons, and a focus on hands-on computer applications and exercises.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Introduction to Computers	Introduction to Computers	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
2	2	Basic Computer	Basic Computer	Lecture,	Exams

		Fundamentals	Fundamentals	Projector, Whiteboard, Marker	(Monthly, Daily), Homework
3	2	Computer Components	Computer Components	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
4	2	Hardware Components	Hardware Components	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
5	2	Software Components	Software Components	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
6	2	Introduction to Operating Systems	Introduction to Operating Systems	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
7	2	Introduction to Operating Systems	Introduction to Operating Systems	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
8	2	Introduction to Microsoft Office Suite	Introduction to Microsoft Office Suite	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
9	2	Midterm Exam	Midterm Exam	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
10	2	Word Program: Part 1 – Basic Word Features & Study	Word Program: Part 1 – Basic Word Features & Study	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
11	2	Excel Program: Basic Excel Features	Excel Program: Basic Excel Features	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
12	2	Excel Study	Excel Study	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
13	2	PowerPoint Program & Basic PowerPoint Features	PowerPoint Program & Basic PowerPoint Features	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
14	2	PowerPoint Study 2	PowerPoint Study 2	Lecture, Projector, Whiteboard,	Exams (Monthly, Daily),

				Marker	Homework
15	2		Internet Programs: Basic Program Features	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework

13. Course Evaluation

Module Evaluation تقييم المادة الدراسية					
		Time/Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	10% (10)	6 and 10	LO #5 and #9
	Assignments	2	10% (10)	3 and 12	LO #2 and #11
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	14	LO #13
Summative assessment	**Midterm Exam**	2hr	10% (10)	9	LO #1 - #8
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

14. Learning and Teaching Resources

Learning and Teaching Resources		
	Text	**Available in the Library?**
Required Texts	*Green on Green: Basic Computer Essentials,"* Khadr Ali Khadr, 2016	
Recommended Texts	*Fundamentals of Computer Technology,"* Thwar Thabet Aref, 2004 *"Microsoft Office Encyclopedia,"* Mohamed Gamal Qabeha, 2002, Dar Al-Ratib Publishing, Egypt *Habraken, Joe (Author). (1901). Microsoft Office Inside Out (Office 2021 and Microsoft 365), Pearson Education.* Link *Lambert, J., Frye, C. (2018). Microsoft Office 2019 Step by Step, Microsoft Press, USA*	
Websites	noor-book.com/z9dwej	

Course Description Form

1. Course Name:
Applied Physics
2. Course Code:
TUFSFT1102
3. Semester / Year:
First / First
4. Description Preparation Date:
2024-10-1
5. Available Attendance Forms:
In-person
6. Number of Credit Hours (Total) / Number of Units (Total)
150 / 6
7. Course administrator's name (mention all, if more than one name)
Name: Dr. Manaf Khalaf Mahmoud

8. Course Objectives

Course Objectives	1. This course deals with the basic concepts of physics. 2. This course is an introduction to biophysics. 3. This course aims to improve problem solving skills through the application of various techniques. 4. This course is designed to develop an understanding of the interaction of heat, temperature, and pressure in food components. 5. Solve mathematical problems related to biophysical concepts.

9. Teaching and Learning Strategies

Strategy	The main strategy for delivering this module will focus on maintaining student interest by utilizing a straightforward format for teaching physics. This approach involves explaining concepts clearly, showing them through practical examples, and using simple analogies. Once students understand these concepts, they will be able to apply them in a variety of contexts in the future.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	The student will be able to define viscosity as a measure of a fluid's resistance to flow. The student will be	Viscosity	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework

		able to distinguish between dynamic viscosity and dynamic viscosity. The student will be able to identify how factors such as temperature, pressure, and chemical composition affect the viscosity of fluids. The student will be able to identify the units used to measure viscosity such as Pascal-second (Pa·s) or Millipasso (mPa·s). The student will understand how viscosity is used in various fields such as the petroleum industry, chemical engineering, and food industries			
2	2	The student will be able to define mechanical properties such as strength, stress, strain, elasticity, hardness, and ductility. The student will understand how stress (such as mechanical stress) and strain affect the behavior of materials. Know the difference between tensile stress, shear stress, and bending stress. The student will be able to analyze the behavior of materials under constant or variable loads, such as tension, compression, and bending.	The Mechanical properties of materials	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
3	2	The student should be able to define heat as energy transferred between objects due to	Heat and Temperature	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework

		a difference in temperature. To understand the difference between temperature (as a measure of thermal energy) and heat (the amount of energy transferred). To know the units used to measure temperature (such as Celsius, Fahrenheit, and Kelvin) and how to convert temperatures between these units.			
4	2	The student will be able to define motion in one dimension as the movement of an object in one direction along a given axis. The student will understand the relationship between position, time, and velocity in linear motion. The student will recognize the difference between physical variables such as position (displacement), velocity, and acceleration, and how each affects motion.	Motion in one Dimension	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
5	2	The student will be able to define a laser as a device that produces coherent and collimated light radiation in a specific direction. The student will know the physical basics of	Laser and medical application	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework

		laser operation, including stimulated emission and the interaction between electrons and energy. The student will be able to explain the properties of a laser beam such as wavelength, frequency, power, focus and coherence, and how these properties affect medical applications.			
6	2	Optics	Introduction to optics	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
7	2	Midterm Exam	Midterm exam	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
8	2	The student will understand the laws of reflection and refraction, such as Snell's law of refraction and how to apply it in different media. The student will know how to calculate the angle of refraction and the angle of reflection in different fluids and materials. The student will be able to explain the basic properties of light such as reflection, refraction, diffraction, and interference. The student will know how to measure wavelength and frequency, and how these properties affect the behavior of light.	Effects of Radiation on Humans	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
9	2	The student will know	Physical Properties of	Lecture,	Exams

		the basic physical properties of fluids such as density, viscosity, liquid pressure, specific heat, and surface tension. The student will be able to explain how density affects the behavior of fluids in different environments and how to calculate density using the relationship between mass and volume.	Fluid	Projector, Whiteboard, Marker	(Monthly, Daily), Homework
10	2	The student should be able to define electric current as the movement of electric charges through a conductor. Know the difference between direct current (DC) and alternating current (AC), and distinguish between the properties of each. The student should understand the basic unit of measurement of electric current, which is the ampere, and how to measure it using an ampere meter.	Electric Current	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
11	2	The student will be able to distinguish between physical reactions (such as melting, freezing, and hydrolysis) and chemical reactions (such as oxidation, reaction with acids, or carbonyls) in food materials. The student will be able to identify the chemical and physical reactions that occur	Physical-Chemical Interactions of food	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework

		when food is heated, such as caramelization, pasteurization, and the reaction between proteins and fats during cooking. The student will be able to explain the oxidation reactions that occur in fats (such as the smell of burnt oils) and how these reactions affect the quality of food.			
12	2	The student should know the definition of pressure as a force acting on a unit area (N/m^2) and distinguish between types of pressure such as atmospheric pressure, pressure inside liquids, and pressure resulting from gases. The student should be able to interpret Boyle's law which states that the pressure and volume of a gas are inversely proportional at a constant temperature.	Pressure and temperature	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
13	2	The student should know the definition of heat transfer by conduction as a process of transferring thermal energy through a substance from a region of high temperature to a region of low temperature as a result of friction between the particles of the substance.	Conductive Heat Transfer	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
14	2	The student will know the definition of radiation as forms of energy that can be used to kill bacteria and parasites in food,	Effect of Irradiation on Food safety and quality	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework

		and improve its safety and quality. The student will know the types of radiation used in food processing such as X-rays, gamma rays, and ultraviolet rays.			
15	2	The student should know the definition of polymers as materials composed of large molecules consisting of repeating units called building blocks or monomers. To identify the types of polymers such as natural polymers (such as cellulose and proteins) and synthetic polymers (such as polyethylene and polyvinyl chloride).	Polymers in Industry	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework

11. Course Evaluation

Module Evaluation					
		Time/Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	10% (10)	5 and 10	LO #1- #4 and #5- #9
	Assignments	2	10% (10)	4 and 8	LO #4 #3 and #7, #8
	Projects / Lab.	1	10% (10)	7 and 15	LO #1- #7 and #7- #15
	Report	1	10% (10)	14	LO #1 -#15
Summative assessment	**Midterm Exam**	2hrs	10% (10)	7	LO #1 - #7
	Final Exam	3hrs	50% (50)	16	All
Total assessment			100% (100 Marks)		

12. Learning and Teaching Resources

Learning and Teaching Resources		
	Text	**Available in the Library?**
Required Texts	Biophysics: An Introduction, Dadan Rosana , Mechanical and Electrical Technology, Guanghsu Chang, Jieh-Shian Young and Wirachman Wisnoe,2015	no
Recommended Texts	APPLIED BIOPHYSICS, Paata J. Kervalishvili,2021	No
Websites	https://ia800204.us.archive.org/30/items/biophysicsconcep00case/biophysicsconcep00case.pdf	

Course Description Form

1. Course Name:
ORGANIC CHEMISTRY
2. Course Code:
TUFSFT1103
3. Semester / Year:
First / First
4. Description Preparation Date:
2024-10-1
5. Available Attendance Forms:
In-person
6. Number of Credit Hours (Total) / Number of Units (Total)
175 / 7
7. Course administrator's name (mention all, if more than one name)
Name: Dr. Mohanad Mahdi Jumaa
8. Course Objectives

Course Objectives	1. Educate students on organic chemical reactions, chemical structures, and the various forms of organic compounds, including methods for their synthesis. 2. Illuminate the mechanisms of organic reactions and their practical applications, aiming to align with advancements in the field of organic chemistry. 3. Provide students with comprehensive knowledge essential for their qualification to work and conduct research in all areas of organic chemistry.

9. Teaching and Learning Strategies	
Strategy	1. Lectures will be given in parallel with interactive whiteboards. 2. Explanations and explanations will be provided to familiarize students with basic knowledge and supplementary topics in chemical thinking and organic analysis. 3. Discussion groups will be formed during the lecture to address topics in organic chemistry that require critical thinking and analysis. 4. During the lecture, ask students a series of introspective questions related to the specific topic, such as “what,” “how,” “when,” and “why. 5. Assign homework assignments that encourage students to self-explain through causal reasoning.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method

1	2	Introduction, Elements and Compounds, Orbitals, Chemical Bonds, Electronegativity, Bond Dissociation Energy, Resonance	General principles in organic chemistry	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
2	2	Introduction, Alkyl Groups, Types of Carbon Atoms, Nomenclature, Physical Properties, Preparation of Alkanes, Reactions	Saturated aliphatic hydrocarbons. Alkanes	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
3	2	Introduction, Nomenclature, Methods of Preparation, Reactions	cycloalkanes	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
4	2	Introduction to them, Classification	unsaturated hydrocarbons	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
5	2	Introduction, Geometric Symmetry, Nomenclature, Properties, Preparation, Reactions	Alkenes.	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
6	2	Introduction, Nomenclature, Properties, Preparation, Reactions	Alkyne.	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
7	2	Introduction to Alcohols, Nomenclature, Properties, Preparation, Reactions	Alcohols.	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
8	2	Midterm Exam	Mid-term exam	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
9	2	Introduction to them, Nomenclature, Properties, Preparation, Reactions	Ethers.	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
10	2	Introduction to them, Nomenclature, Properties, Preparation, Reactions	Simple carbonyl compounds such as aldehydes and ketones.	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
11	2	Introduction to them, Nomenclature, Properties, Preparation, Reactions	Carboxylic acids.	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
12	2	Introduction to them,	Amines.	Lecture,	Exams

		Nomenclature, Properties, Preparation, Reactions		Projector, Whiteboard, Marker	(Monthly, Daily), Homework
13	2	Introduction to them, Nomenclature, Properties, Preparation, Reactions	Amide.	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
14	2	Introduction to them, Nomenclature, Properties, Preparation, Reactions	Esters.	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
15	2	Introduction to them, Nomenclature, Properties, Preparation, Reactions	Aromatic compounds	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework

11. Course Evaluation

Module Evaluation					
As		**Time/Number**	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	10% (10)	4, 10	LO #1 #3 #8 #10
	Assignments	2	10% (10)	5 and 9	LO #2 #10
	Projects / Lab.	2	10% (10)	7 and 13	LO #7 #13
	Report	5	10% (10)	2, 4, 6, 8, 10	LO #1-10
Summative assessment	**Midterm Exam**	1	10% (10)	8	LO #1 - #7
	Final Exam	1	50% (50)	15	All
Total assessment			100% (100 Marks)		

13. Learning and Teaching Resources

Learning and Teaching Resources		
	Text	**Available in the Library?**
Required Texts	1- Organic chemistry, Morrison and Boyd . 2- Chemistry, Clayden J., Creeves N., Warren S and Wother P., Oxford, 2001.	
Recommended Texts	Organic chemistry	
Websites	https://en.wikipedia.org/wiki/Organic_chemistry	

Course Description Form

1. Course Name:
Mathematics
2. Course Code:
TUFSFT1105
3. Semester / Year:
First / First
4. Description Preparation Date:
2024-10-1
5. Available Attendance Forms:
In-person
6. Number of Credit Hours (Total) / Number of Units (Total)
125 /5
7. Course administrator's name (mention all, if more than one name)
Name: Dr. Manaf Khalaf Mahmoud
8. Course Objectives

Course Objectives	1. demonstrate proficiency in problem solving and logical reasoning skills 2. demonstrate a comprehensive understanding of mathematical theory 3. demonstrate proficiency in rudimentary statistics 4. mathematics is a powerful tool for developing mental discipline and logical reasoning skills 5. systematically organize, represent, analyze, and interpret data to draw conclusions and make predictions based on the results

9. Teaching and Learning Strategies	
Strategy	This module provides a thorough introduction to essential concepts in mathematics and calculus, including topics such as functions, inequalities, limits, derivatives, and integrals. The main objective of this module is to enhance students' mathematical skills and problem-solving abilities across diverse disciplines. Emphasis is placed on understanding theoretical concepts and applying them to real-world situations. The module will include periodic quizzes, a mid-term exam, and a final exam to assess students' progress and understanding.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Define a function and distinguish it from other relationships. The ability to plot	Introduction to Functions	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework

		functions on the coordinate plane (x, y) and understand the relationship between values. Distinguish between different types of functions such as linear, quadratic, radical, and trigonometric functions.			
2	2	Define inequality and distinguish it from an equation. Understand the different types of inequalities such as linear and nonlinear inequalities, and inequalities with positive and negative coefficients Be able to solve inequalities using appropriate techniques such as simplification, distribution, and division depending on the case. Be able to deal with inequalities that involve adding or subtracting two or more inequalities (such as compound inequalities).	Inequalities	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
3	2	The ability to calculate limits using direct values, division by zero, and applying algebraic laws and special algebras. Study limits as a variable approaches infinity or negative infinity, and understand the behavior of a function in these cases.	Limits	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework

		Understand the relationship between limits and continuity and how the value of a limit at a point equals the value of a function at that point in the case of continuity.			
4	2	Defining the derivative as calculating the instantaneous rate of change of a function at a given point, and relating it to the concept of velocity or time change. Calculating the derivative using basic derivative rules such as: Power rule Product rule Quotient rule Chain rule Ability to derive basic functions such as: Linear functions Quadratic functions Radical functions Trigonometric functions	Derivatives (Part 1)	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
5	2	Learn how to calculate derivatives of complex functions using the chain rule. Use derivatives to analyze velocity, slope, and real-world problems such as determining maximum and minimum values (practical applications such as calculations in motion, economics, and engineering).	Derivatives (Part 2)	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
6	2	After this lecture, students can find solutions to all functions and find their derivatives by	Applications of Derivatives	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework

		knowing the applications of derivatives.			
7	2	Mid-Term Exam	Mid-Term Exam	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
8	2	Identify types of indefinite integrals in mathematics, such as and , and understand how these types of expressions do not have a definite value directly. Identify situations that result in indefinite transactions when trying to calculate limits, derivatives, or integrals.	Indefinite Integrals	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
9	2	Students can answer all exercises and questions related to indefinite integrals.	Practice problems and exercises	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
10	2	Identify cases that contain transactions that have a specific value in mathematics, such as where and are two non-zero constants, and understand how these values are calculated directly. The ability to calculate limits that lead to specific values as the variable approaches a certain point, whether the limit is direct or through other techniques such as division and simplification.	Definite Integrals (Part 1)	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
11	2	Understand the difference between specific and non-specific transactions (such as) and apply the correct solutions	Definite Integrals (Part 2)	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework

		based on the type of transaction.			
12	2	After this lecture, students can find solutions to all integrals of functions and find their solutions. By knowing the applications of integration.	Applications of Integration	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
13	2	Definition of differential equations and their types (ordinary differential equations and partial differential equations) with understanding the relationship between differential equations and unknown functions.	Differential Equations	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
14	2	Understand how to work with functions that depend on more than one variable. Derivatives in Multiple Variables: Learn how to calculate derivatives of functions that contain more than one variable using partial derivatives.	Multivariable Calculus (Optional)	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
15	2	Preparatory week before the final Exam	Preparatory week before the final Exam	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework

11. Course Evaluation

Module Evaluation					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1- #4 and #5- #9
	Online Assignments	2	10% (10)	4 and 14	LO #1 #3 and #10, #13
	onsite Assignments	2	10% (10)	4 and 8	LO #1- #3 and #7- #7
	seminars	1	10% (10)	14	LO #1- #14
Summative assessment	Midterm Exam	2hrs	10% (10)	7	LO #1 - #7
	Final Exam	3hrs	50% (50)	16	All
Total assessment			100% (100 Marks)		

14. Learning and Teaching Resources

Learning and Teaching Resources		
	Text	Available in the Library?
Required Texts	An Introduction to Higher Mathematics, Patrick Kee,f2021 No 5 AN INTRODUCTION TO MATHEMATICS, A. N. WHITEHEAD,2020	no
Recommended Texts	COMMON CORE STATE STANDARDS for MATHEMATICS, William Schmidt,2018	No
Websites	https://www.mrbartonmaths.com/resources/keystage3/the-maths-ebook.pdf	

Course Description Form

1. Course Name:
Microbiology
2. Course Code:
TUFSFT1106
3. Semester / Year:
First / First
4. Description Preparation Date:
2024-10-1
5. Available Attendance Forms:
In-person
6. Number of Credit Hours (Total) / Number of Units (Total)
175 /7
7. Course administrator's name (mention all, if more than one name)
Name: Assoc. Prof. Sami khudhur saeed

8. Course Objectives

Course Objectives	1. Understand the structural similarities and differences between microorganisms, along with the unique structure-function relationships of prokaryotic cells. 2. Understand the basic concepts of dairy microbiology. 3. Understand the diversity of dairy microorganisms and microbial communities in milk and dairy products and recognize how these microorganisms cope with the fundamental challenges posed by the environment. 4. Recognize the basic principles of epidemiology and pathogenicity of diseases associated with milk and dairy products.

9. Teaching and Learning Strategies

Strategy	The main strategy for delivering this module is to encourage students' active participation in the exercises while at the same time refining and enhancing their critical thinking skills. This will be accomplished through engaging lessons, interactive tutorials, and the incorporation of simple experiments with sampling activities to make it educational and interesting for students.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Definition of microbiology, famous microbiologists, classification of	Introduction to the microbial world	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework

		microbiology, the role of microbiology in the environment - the relationship of microbiology to human health			
2	2	Structure of living organisms Microbial cell/surface layer, the difference between the cell wall and cell membrane Means of movement	Microbial Cell Structure and Function	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
3	2	Concept of microbial metabolism, basics of microbial metabolism, metabolic pathways, enzymes, and catalysts of metabolism	Microbial Metabolism	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
4	2	What is microbial growth / Stages of microbial growth / Microbial growth factors / Microbial growth and reproduction / How to count microbial cells	Microbial Growth	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
5	2	Genetic composition / types of nucleic acids / composition of nucleic acids / importance of microbial genetics in the fields of life	Microbial genetics	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
6	2	What is molecular information, what is protein structure, and how to process it?	Molecular Information Flow and Protein Processing	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
7	2		Mid-term Exam	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
8	2	Relationships between humans and microorganisms - Beneficial relationship - Types of relationships	Microbial Symbioses with Humans	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
9	2	What are viruses, their properties, structure, classification, and relationship to living	Virology	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework

		organisms, their reproduction, and methods of diagnosis			
10	2	Strep throat - tuberculosis, salmonella, chickenpox, HIV	Person to Person Bacterial and Viral Diseases	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
11	2	Dengue fever, anthrax, yellow fever, brucellosis	Vector borne and Soilborne Bacterial and Viral Disease	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
12	2	Cholera, Enterobacteriaceae, Salmonella, Hepatitis viruses ROTAVIRUS	Waterborne and Foodborne Bacterial and Viral Diseases	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
13	2	General introduction to mycology, why do we study fungi, their types, fungal development, fungal reproduction	Introduction to mycology	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
14	2	General introduction to parasites, types of protozoan parasites/worms	Introduction to Parasitology	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
15	2	What is algae science, nomenclature, types of algae, benefits, shape, living	Introduction to algology	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework

11. Course Evaluation

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

12. Learning and Teaching Resources

Learning and Teaching Resources		
	Text	**Available in the Library?**
Required Texts	Riedel S, & Hobden J.A., & Miller S, & Morse S.A., & Mietzner T.A., & Detrick B, & Mitchell T.G., & Sakanari J.A., & Hotez P, & Mejia R(Eds.), (2019). *Jawetz, Melnick, & Adelberg's Medical Microbiology, 28e*. McGraw Hill. https://accesspharmacy.mhmedical.com/content.aspx?bookid=2629&sectionid=217768734	yes
Recommended Texts	WILLEY, J. M., SHERWOOD, L. M., WOOLVERTON, C. J., & PRESCOTT, L. M. (2012). *Prescott's principles of microbiology*. New York, McGraw-Hill.	No
Websites	https://www.coursera.org/courses?query=microbiology	

Course Description Form

1. Course Name:
Microbiology (practical)
2. Course Code:
TUFSFT1106
3. Semester / Year:
First / First
4. Description Preparation Date:
2024-10-1
5. Available Attendance Forms:
In-person
6. Number of Credit Hours (Total) / Number of Units (Total)
30 hours (practical)
7. Course administrator's name (mention all, if more than one name)
Name: Dr. Ala Saleh Ali
8. Course Objectives

Course Objectives	1. Understand the structural similarities and differences between microorganisms, along with the unique structure-function relationships of prokaryotic cells. 2. Understand the basic concepts of dairy microbiology. 3. Understand the diversity of dairy microorganisms and microbial communities in milk and dairy products and recognize how these microorganisms cope with the fundamental challenges posed by the environment. 4. Recognize the basic principles of epidemiology and pathogenicity of diseases associated with milk and dairy products.

9. Teaching and Learning Strategies	
Strategy	The main strategy for delivering this module is to encourage students' active participation in the exercises while at the same time refining and enhancing their critical thinking skills. This will be accomplished through engaging lessons, interactive tutorials, and the incorporation of simple experiments with sampling activities to make it educational and interesting for students.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Safety precautions, laboratory hazards, laboratory safety	Lab 1: General instructions about safety in Lab	Lecture, Projector, Whiteboard,	Exams (Monthly, Daily),

		guidelines		Marker	Homework
2	2	Sterilizers, petri dishes, test tubes, microscopes	2: Equipment and tools used in microbiology lab	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
3	2	Microscope, types of microscopes, mechanical parts, optical parts, working principle of the microscope	Lab 3: Microscope parts and their usage	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
4	2	Definition of bacteria in terms of their internal components, various forms, types, and methods of diagnosis	Lab 4: bacterial cells components, shapes and types	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
5	2	What are the culture media in terms of consistency, physical and chemical state? How to prepare the culture media	Lab 5: Cultural media types	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
6	2	Types of stains, method, staining with Gram stain, comparison between Gram negative and Gram positive bacteria	Lab 6: Gram stain: Positive and Negative bacterial cells	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
7	2		Mid-term exam	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
8	2	Sterilization techniques, incubator oven, disinfection with alcohol and other sterilants, how to deal with contaminants	Lab 7: Disinfection and Sterilization techniques	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
9	2	Definition of dilution, its types, and methods of dilution. What is the dilution factor?	Lab 9: dilution types and usages	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
10	2	**Methyl red MR–VP**	Lab 10: Biochemical tests and its usage in bacterial identification	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
11	2	What is the storage of bacterial isolates? Isolation methods from natural and industrial	Lab 11: Bacterial isolates storage: short, medium and long storage techniques	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework

		sources / Preserving bacteria in a sterile solution			
12	2	Fungal cell structure, types of fungal cells, their shapes, types of pathogenic and beneficial fungi, their diagnosis	Lab 12: Fungal cells structure and morphology	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
13	2	What are parasites? What is the structure of the cell? Types of parasites? Diagnosis methods	Lab 13: Parasite cells structures and morphology	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
14	2	What are algae, cell structure, types, classification of algae	Lab 14: algal cells structure and morphology	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
15	2	Bacterial conjugation, assembly of genetic material of microbial cells	Lab 15: Microbial cells genetic materials studies	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework

11. Course Evaluation

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

13. Learning and Teaching Resources

Learning and Teaching Resources		
	Text	Available in the Library?
Required Texts	Riedel S, & Hobden J.A., & Miller S, & Morse S.A., & Mietzner T.A., & Detrick B, & Mitchell T.G., & Sakanari J.A., & Hotez P, & Mejia R(Eds.), (2019). *Jawetz, Melnick, & Adelberg's Medical Microbiology, 28e*. McGraw Hill. https://accesspharmacy.mhmedical.com/content.aspx?bookid=2629&sectionid=217768734	yes
Recommended Texts	WILLEY, J. M., SHERWOOD, L. M., WOOLVERTON, C. J., & PRESCOTT, L. M. (2012). *Prescott's principles of microbiology*. New York, McGraw-Hill.	No
Websites	https://www.coursera.org/courses?query=microbiology	

Course Description Form

1. Course Name:
Physics (Practical)
2. Course Code:
TUFSFT1102
3. Semester / Year:
First / First
4. Description Preparation Date:
2024-10-1
5. Available Attendance Forms:
In-person
6. Number of Credit Hours (Total) / Number of Units (Total)
30 hours (practical)
7. Course administrator's name (mention all, if more than one name)
Name: Osama Abdullah Ahmed
8. Course Objectives

Course Objectives	1. This course covers the basic concepts of physics. 2. This course is an introduction to biophysics. 3. This course aims to improve problem solving skills through the application of various techniques. 4. This course is designed to develop an understanding of the interaction of heat, temperature and pressure in food components. 5. Solve mathematical problems related to biophysical concepts.

9. Teaching and Learning Strategies	
Strategy	The main strategy for delivering this course will focus on maintaining student interest by using a simple format for teaching physics. This approach involves explaining concepts clearly, demonstrating them through practical examples, and using simple analogies. Once students understand these concepts, they will be able to apply them in a variety of contexts in the future.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Students' knowledge of the laboratory in which the operations are carried out, including the devices (voltage and capacity devices and	Lab 1: Laboratory introduction and basic tools and safety procedures.	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework

		piezoelectric devices), and the safety tools that must be followed when entering the laboratory (gloves and laboratory clothing), as well as their knowledge of laboratory tools and analysis tools inside laboratories, and laboratory security and safety.			
2	2	Students' knowledge of gravitational acceleration, units of measurement, how to perform the experiment inside the laboratory, and the tools used in the experiment, which include (a thread of negligible mass, a small ball, a metric ruler, and a stopwatch, through which the acceleration of gravity on the surface of the Earth is found.	Lab 2: Measure the acceleration due to gravity (g) using a simple pendulum.	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
3	2	Students' knowledge of the tools used in the experiment, which are (a helical spring, a metric ruler, weights, and a weight holder), as well as their knowledge of the theory of the experiment, the method of work, and obtaining readings through the experiment practically, and finding the graph and slope.	Lab 3: Measure the spring constant using Hooke's law	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
4	2	Students' knowledge of the objective of the experiment, which is to find the focal length using the graphical method, as well as	Lab 4: Focal length of a convex lens by object distance and image distance.	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework

		their knowledge of the tools used in the experiment, which are (a light bulb, a convex lens, supports or supports, a meter ruler). The readings are recorded practically inside the laboratory and then represented on the graph to find the focal length and lens power.			
5	2	The tools used in the experiment are identified, which are (battery, variable resistors, voltmeter, ammeter, resistance, switch). These tools are connected practically in the laboratory and readings are obtained with different resistors and readings and represented graphically.	Lab 5: Ohm's law investigation.	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
6	2	Students know how to connect resistors in series and find the equivalent resistance, as well as in parallel connection. This is done by using Ohm's Law.	Lab 6: Resistors in series and parallel.	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
7	2		Lab 7: **Midterm exam**	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
8	2	The objective of the experiment is how to determine the viscosity value of glycerin using Stokes' law.	Calculation of the viscosity of a liquid using the Stokes method	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
9	2	The experiment aims to familiarize the student with the characteristics of the Kaiker meter and find	Lab 8: (Characteristics of Geiger counter)	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework

		the relative stability area, then find the operating voltage, and inform the students of the safety precautions and the dead time, which is considered in a state of instability, then draw the curve of the Kaiker meter and represent the points practically.			
10	2	Identify the half-life, which is defined as the time during which half of the original number of radioactive nuclei decays, as well as identify the age of the radioactive sample to be measured and find the decay constant.	Lab 9: Half – life for source of radiation	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
11	2	The idea of this experiment is based on mixing a known amount of cold water with another known amount of hot water. The heat capacity is defined as the number of calories absorbed when the temperature of the calorimeter is raised by one degree Celsius. Then the practical application is done through the data taken practically.	Lab 10:Determined the heat capacity for Calorimeter	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
12	2	Learn about Young's coefficient	Lab 11:Determined Young's modulus	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
13	2	The latent heat of ice refers to the amount of energy that ice requires or releases to change its state from solid to liquid (or vice versa) without changing its temperature.	Lab 12:Determined latent heat for ice	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework

14	2	Students' knowledge of (Stefan-Boltzmann Law)	Lab 13 Stefan–Boltzmann low	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
15	2	The measurement of the linear expansion of a material is concerned with the study of how solids expand when their temperature changes. The basic law that describes this expansion is	Lab14:Measure length expansion for material	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework

11. Course Evaluation

Module Evaluation تقييم المادة الدراسية					
		Time/Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	10% (10)	5 and 10	LO #1- #4 and #5- #9
	Assignments	2	10% (10)	4 and 8	LO #4 #3 and #7, #8
	Projects / Lab.	1	10% (10)	7 and 15	LO #1- #7 and #7- #15
	Report	1	10% (10)	14	LO #1 -#15
Summative assessment	**Midterm Exam**	2hrs	10% (10)	7	LO #1 - #7
	Final Exam	3hrs	50% (50)	16	All
Total assessment			100% (100 Marks)		

12. Learning and Teaching Resources

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	Biophysics: An Introduction, Dadan Rosana , Mechanical and Electrical Technology, Guanghsu Chang, Jieh-Shian Young and Wirachman Wisnoe,2015	no
Recommended Texts	APPLIED BIOPHYSICS, Paata J. Kervalishvili,2021	No
Websites	https://ia800204.us.archive.org/30/items/biophysicsconcep00case/biophysicsconcep00case.pdf	

Course Description Form

1. Course Name:
Computer (Practical)
2. Course Code:
UOT003
3. Semester / Year:
First / First
4. Description Preparation Date:
2024-10-1
5. Available Attendance Forms:
In-person
6. Number of Credit Hours (Total) / Number of Units (Total)
30 hours (practical)
7. Course administrator's name (mention all, if more than one name)
Name: Osama Abdullah Ahmed
8. Course Objectives

Course Objectives	1. Using computers to develop students' skills. 2. Learning basic computer concepts. 3. Analyzing application programs used in preparing reports, research and graduation projects, with a focus on applications such as Microsoft Word, PowerPoint and Excel. 4. Learning basic concepts of using the Internet and enabling students to search for topics and materials on the Internet.

9. Teaching and Learning Strategies

Strategy	The main strategy used in delivering this course is to encourage students to use computers effectively and understand how they work. It also aims to improve and expand critical thinking skills. These objectives are achieved through interactive teaching, interactive lessons, and an emphasis on practical computer exercises and applications.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Identify the physical parts of the computer such as input units (mouse, keyboard, scanner), output units, and the central	Computer Lab: Familiarizing with the hardware components and how each part works	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework

		processing unit.			
2	2	Computer operating systems, including Windows, Linux, and Android, how these systems have evolved, and how each system works.	Computer Lab: Introduction to the computer operating system in the lab	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
3	2	Teaching students how to operate the computer through the control panel and how each unit within the system works and enabling them to operate and connect the computer to the electrical circuit and turn it off through the off button through the shortcuts on the desktop	Computer Lab: How to operate the computer	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
4	2	Students learn how to operate the Word program, how to write on this program, create a table, change the font size, and some elements, the most important of which is saving the document after being able to edit it, as well as the shortcuts that distinguish Word through the keyboard.	Computer Lab: Using Word	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
5	2	Enabling them to open a document and write on it through practical application in the laboratory and create tables as well as page borders and save the file by the student in the computer clipboard	Using Word	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
6	2	Teach them how to save the file to PDF format and how to convert the document from Word format to PDF format.	Using Word	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework

7	2	Learn about the Excel program and how to open a worksheet for the document and write numbers on it, as well as their knowledge of some arithmetic operations such as addition, subtraction, and other things that the student needs	Computer Lab: Using Excel	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
8	2	Their knowledge of how to create special tables in Excel, how to navigate between cells, and how to sum vertically and horizontally.	Computer Lab: Using Excel	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
9	2		Midterm Exam	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
10	2	Practical application in the laboratory for all students divided into groups through which data is entered for first-year students and how to save this data and export it to the computer	Computer Lab: Using Excel	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
11	2	Students' knowledge of the PowerPoint program and how to create a special presentation for each student by entering the program and creating a presentation that enables them to create a presentation and formulate it through shapes, slide show, and transitions between one slide and another.	Computer Lab: Using PowerPoint	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
12	2	After writing on the slide, the student will learn how to place transitions and	Computer Lab: Using PowerPoint	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework

		movements, in addition to how to attach a video or pictures and upload them to the presentation, then save the presentation and export it to the desktop.			
13	2	Giving students a practical lesson using the computers in the lab and enabling them to create presentations, save them, and display them on the slide show device (data show) and display the lecture in a smooth and distinctive manner.	Computer Lab: Using PowerPoint	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
14	2	Students know how to use the Internet, how to create a URL, how to get these links, and how to extract the link address in URL format.	Computer Lab: Using the Internet	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
15	2	Students will learn how to create servers, as well as some of the features of the Internet, how to access the Internet via a computer, and how to connect a computer to the Internet via external connections.	Computer Lab: Using the Internet	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework

11. Course Evaluation

Module Evaluation تقييم المادة الدراسية					
		Time/Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	10% (10)	6 and 10	LO #5 and #9
	Assignments	2	10% (10)	3 and 12	LO #2 and #11
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	14	LO #13
Summative assessment	**Midterm Exam**	2hr	10% (10)	9	LO #1 - #8
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

14. Learning and Teaching Resources

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	Greens on Greens Researcher 2016. Computer Basics	
Recommended Texts	Thawwar Thabet Aref. (2004). Basics of Computer Technology. Muhammad Jamal Qabiha. (2002). Microsoft Office Encyclopedia. Egypt: Dar Al-Rateb University Habraken Joe (author). (1901). *Microsoft Office Inside Out (Office 2021 and Microsoft 365)*. Pearson Education. https://www.vlebooks.com/vleweb/product/openreader?id=none&isbn=9780137564187 Lambert, J., Frye, C2018) .). Microsoft Office 2019 Step by Stepالولايات المتحدة .: Microsoft Press.	
Websites	noor-book.com/z9dwej	

Course Description Form

1. Course Name:
ORGANIC CHEMISTRY
2. Course Code:
TUFSFT1103
3. Semester / Year:
First / First
4. Description Preparation Date:
2024-10-1
5. Available Attendance Forms:
In-person
6. Number of Credit Hours (Total) / Number of Units (Total)
30 hours (practical)
7. Course administrator's name (mention all, if more than one name)
Name: Nameer Muayad khalaf
8. Course Objectives

Course Objectives	1. Educate students on organic chemical reactions, chemical structures, and the various forms of organic compounds, including methods for their synthesis. 2. Illuminate the mechanisms of organic reactions and their practical applications, aiming to align with advancements in the field of organic chemistry. 3. Provide students with comprehensive knowledge essential for their qualification to work and conduct research in all areas of organic chemistry.

9. Teaching and Learning Strategies	
Strategy	1. Lectures will be given in parallel with interactive whiteboards. 2. Explanations and explanations will be provided to familiarize students with basic knowledge and supplementary topics in chemical thinking and organic analysis. 3. Discussion groups will be formed during the lecture to address topics in organic chemistry that require critical thinking and analysis. 4. During the lecture, ask students a series of introspective questions related to the specific topic, such as “what,” “how,” “when,” and “why. 5. Assign homework assignments that encourage students to self-explain through causal reasoning.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method

1	2	Laboratory safety and Acquaintance with glassware and apparatus in the organic chemistry laboratory	Laboratory safety and Acquaintance with glassware and apparatus in the organic chemistry laboratory	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
2	2	Determine the melting point by means of a capillary tube for some organic substances.	Determine the melting point by means of a capillary tube for some organic substances.	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
3	2	determine the boiling point of some solid compounds.	determine the boiling point of some solid compounds.	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
4	2	Re-crystallization	Re-crystallization	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
5	2	Re-crystallization	Re-crystallization	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
6	2	Extraction technique	Extraction technique	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
7	2	Liquid-Liquid extraction	Liquid-Liquid extraction	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
8	2	Mid-term exam	Mid-term exam	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
9	2	Liquid-solid extraction	Liquid-solid extraction	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
10	2	acid-base extraction	acid-base extraction	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
11	2	acid-base extraction	acid-base extraction	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
12	2	Distillation techniques	Distillation techniques	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
13	2	Distillation techniques (known samples).	Distillation techniques (known samples).	Lecture,	Exams

				Projector, Whiteboard, Marker	(Monthly, Daily), Homework
14	2	Distillation techniques (unknown samples).	Distillation techniques (unknown samples).	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework
15	2	Preparatory week before the final Exam	Preparatory week before the final Exam	Lecture, Projector, Whiteboard, Marker	Exams (Monthly, Daily), Homework

11. Course Evaluation

Module Evaluation					
As		**Time/Number**	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	10% (10)	4, 10	LO #1 #3 #8 #10
	Assignments	2	10% (10)	5 and 9	LO #2 #10
	Projects / Lab.	2	10% (10)	7 and 13	LO #7 #13
	Report	5	10% (10)	2, 4, 6, 8, 10	LO #1-10
Summative assessment	**Midterm Exam**	1	10% (10)	8	LO #1 - #7
	Final Exam	1	50% (50)	15	All
Total assessment			100% (100 Marks)		

12. Learning and Teaching Resources

Learning and Teaching Resources		
	Text	**Available in the Library?**
Required Texts	1- Organic chemistry, Morrison and Boyd . 2- Chemistry, Clayden J., Creeves N., Warren S and Wother P., Oxford, 2001.	
Recommended Texts	Organic chemistry	
Websites	https://en.wikipedia.org/wiki/Organic_chemistry	