


Course Description Form

1. Course Name:	
Technology of dates and sugar	
2. Course Code:	
TEDS368	
3. Semester / Year:	
First semester (fall) / 2023-2024	
4. Description Preparation Date:	
1/2/2024	
5. Available Attendance Forms:	
Presence	
6. Number of Credit Hours (Total) / Number of Units (Total)	
30theoretical hours + 45 practical hours (75 hours) / 3.5 units	
7. Course administrator's name (mention all, if more than one name)	
Name: Ph.D. Roqaya Fouad Lafy and Afkar Yahya Email: roqayafouad@uomosul.edu.iq	
8. Course Objectives	
<ul style="list-style-type: none"> - Enabling students to know the economic and industrial importance of sugar. - Enabling students to learn about sugar sources and methods of extraction. - Illustration for students of the most important uses of molasses and liquid sugar. - Familiarize students with the types of dates and their chemical composition. - Familiarize students with the stages of manufacture of liquid milk and children's food - Help students understand the subject and how to benefit from it in the future after graduation. - Developing students' study skills 	<ul style="list-style-type: none"> _ Enable students to take tests for dates and sugar these include moisture tests, ash and other basic tests . _ Introducing students to the types of Devices and equipment used in the sugar, dates and yeast industry . _ Developing the professional skills students and methods of sugar industry And dates of all kinds .
9. Teaching and Learning Strategies	
<p>Theoretical</p> <ul style="list-style-type: none"> - Interactive lecture - Brainstorming - Dialogue and discussion - Assigning reports -Conducting monthly and daily examinations -Using educational video for YouTube subjects to make devices that are not 	<p>Practical</p> <ul style="list-style-type: none"> - Lecture-audio methods (teaching explanation of the topic) - Conducting practical tests and discussing them . - Making reports for the practical tests that have been conducted . - Using educational videos for the study material .

available in the department
-Feedback for students

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2Theoretical 3Practical	THEORETICAL A1 The economic and manufacturing importance of sugar and sugar sources Practical A1 Estimation humidity in Sugar and dates	THEORETICAL Learn about the most important food industries which sugar enters as a basic Practical Methods for estimating humidity	THEORETICAL Audio methods, Writing on the board Direct dialogue style Practical Methods Audiology Writing style On blackboard and take the test	THEORETICAL Short exams, assignments, discussions
2	2Theoretical 3Practical	THEORETICAL A2 Beets, their properties Chemical Composition Practical C1 Calculates the ratio of materials Total solid	THEORETICAL Recognizes plant beet properties and Chemical Composition Practical Calculation of percentage of solids Total, Dissolved Solids and non-dissolved solids	THEORETICAL audio methods, Writing on the board Direct dialogue Style Practical Methods Audiology Writing style On blackboard and take the test	THEORETICAL Short exams, assignments, discussions
3	2Theoretical	THEORETICAL A3 Recognizes stages manufacturing: methods of C2 receiving beets storing, C3 washing and cleaning beets	THEORETICAL Manufacturing Stages: Receipt, Storage, Beet Cleaning	THEORETICAL audio methods, Writing on the board Direct dialogue Style	THEORETICAL Short exams, assignments, discussions

	3Practical	Practical A2 Ash is estimate At Sugar and Dates A3 Ash Determination Methods	Practical The goal of the Ashes tribute Methods for estimating Ashes	Practical Methods Audiology Writing style On blackboard and take the test	
4	2Theoretical 3Practical	THEORETICAL A4 Student understands ways chop beet roots Extracting diabetic juice from slices Purify raw juice Practical A4 Recognizes the types of incineration	THEORETICAL Manufacturing Stages: Cutting, Extraction, Purification Practical Types of wet incineration and dry	THEORETICAL audio methods, Writing on the board Direct dialogue Style Practical Methods Audiology Writing style On blackboard and take the test	THEORETICAL Short exams, assignments, discussions 
5	2Theoretical 3Practical	THEORETICAL C4 The student understands the methods used in the bleaching process Chemical and physical transformations occurring in juice during process concentration and crystallization Practical B1 Recognizes a device for rawsugars polarimeter device	THEORETICAL Manufacturing Stages: Short Color, Focus, Crystal Practical Polarimeter device	THEORETICAL audio methods, Writing on the board Direct dialogue Style Practical Methods Audiology Writing style On blackboard and take the test	THEORETICAL Short exams, assignments, discussions
6	2Theoretical	THEORETICAL A5 The student knows the steps the sugar	THEORETICAL Sugar Industry of Sugar Cane	THEORETICAL audio methods, Writing on the board	THEORETICAL Short exams, assignments,

	3Practical	C5 industry and stages of refining raw sugar and molas Practical A6 Applied Molasses Industry A5 Types of Molasses	Practical Types of molasses And the way it's made	Direct dialogue Style Practical Methods Audiology Writing style On blackboard and take the test	discussions
7	2Theoretical 3Practical	THEORETICAL A6 The student recognizes the uses of Molas C6 Other sources of sugar such as maple, corn, etc. Sugar Liquid Practical A7 Identifies problems that Notes on molasses	THEORETICAL Use Molas, Sugar Liquid Practical Molasses problems	THEORETICAL audio methods, Writing on the board Direct dialogue Style Practical Methods Audiology Writing style On blackboard and take the test	THEORETICAL Short exams, assignments, discussions
8	2Theoretical 3Practical	THEORETICAL A7 Students learn about dates and importance of dates, A8 classification, maturity stages Practical B2 Implements vinegar industry	THEORETICAL Dates, importance, classification, maturity stages Practical The basis of vinegar production	THEORETICAL audio methods, Writing on the board Direct dialogue Style Practical Methods Audiology Writing style On blackboard and take the test	THEORETICAL Short exams, assignments, discussions
9	2Theoretical	THEORETICAL A9 Student understands fruit and seed components	THEORETICAL Chemical Composition of Dates	THEORETICAL audio methods, Writing on the board Direct dialogue Style	THEORETICAL Short exams, assignments, discussions

	3Practical	Practical A8 Distinguish vinegar production methods	Practical Methods of vinegar production in both ancient and modern ways	Practical Methods Audiology Writing style On blackboard and take the test	
10	2Theoretical	THEORETICAL A10 The student masters the industry of capping and packing dates and the Debs treacle ses industry C7 Successfully balances investment and of the molasses industry and employment in line with market requirements Practical He recognizes ways of Detection of cheating in vinegar	THEORETICAL Date Manufacturing	THEORETICAL audio methods, Writing on the board Direct dialogue Style	THEORETICAL Short exams, assignments, discussions
	3Practical	Practical B3 shows methods of detection of fraud in vinegar	Practical Detection of cheating in vinegar	Practical Methods Audiology Writing style On blackboard and take the test	
11	2Theoretical	THEORETICAL A11 Student learns ways to dry dates C8 Successfully balances investment and of date drying employment in line with market requirements	THEORETICAL Date Manufacturing	THEORETICAL audio methods, Writing on the board Direct dialogue Style	THEORETICAL Short exams, assignments, discussions
	3Practical	Practical A9 Differentiates sugars Faculty	Practical Methods for estimating sugars College and shorthand	Practical Methods Audiology Writing style On	



		and shorthand in Dates		blackboard and take the test	
12	2Theoretical 3Practical	THEORETICAL A12 The student recognizes the liquid sugar industry from Debs. C9 Baby Food in its Dates Industry Practical A10 Distinguish non-polysaccharid Reductionism dates	THEORETICAL The most important manufacturing industries for dates Practical The method estimating sugars Non-reductive in dates	THEORETICAL audio methods, Writing on the board Direct dialogue Style Practical Methods Audiology Writing style On blackboard and take the test	THEORETICAL Short exams, assignments, discussions
13	2Theoretical 3Practical	THEORETICAL A13 The student gets acquainted with Liquid sugar industry To produce concentrated juice similar to Sherry C10 protein production from single-cell biology (scp) and the booster Bio Probiotic A14 Extraction of high fructose sugar from dates Practical B4 Get acquainted with molasses	THEORETICAL The most important manufacturing industries for dates Practical Theories of molasses	THEORETICAL audio methods, Writing on the board Direct dialogue Style Practical Methods Audiology Writing style On blackboard and take the test	THEORETICAL Short exams, assignments, discussions
14	2Theoretical	THEORETICAL C11 The student masters the methods of making vinegar and its types C12: Successfully balances the	THEORETICAL The most important manufacturing industries for dates	THEORETICAL audio methods, Writing on the board Direct dialogue Style	THEORETICAL Short exams, assignments, discussions

	3Practical	investment and use of vinegar fraud detection methods and their employment in line with food quality requirements Practical A11 Sugar is extracted from Molas	Practical Sugar extraction method From molasses	Practical Methods Audiology Writing style On blackboard and take the test	
15	2Theoretical 3Practical	THEORETICAL A12 Scientific Visit	THEORETICAL Solve of problem	THEORETICAL Scientific visit to one of the sugar, molas and bread yeast production	THEORETICAL Submission of a report on sightings of scientific visit

11. Course Evaluation


Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc


t	Evaluation methods	Evaluation date (one week)	Grade	Relative weight %
1	Report 1	Fourth week	2.5	2.5
2	Report 2	Eighth week	2.5	2.5
3	Quiz (1)	Sixth week	2	2
4	Quiz (2)	Ninth week	2	2
5	Quiz (3)	Fifteenth week	1	1
6	Semester Exam (1)	Sixth week	7.5	7.5
7	Semester Exam (2)	Twelfth week	7.5	7.5
8	Final theoretical test	Final Semester Exams	40	40
9	Practical field project	Fifteenth week	5	5
10	Field Assessment	Third and fifth week	2	2
11	Practical Quiz (1)	First week	1	1
12	Practical Quiz (2) Quiz	Fourth week	0.5	0.5
13	Practical Quiz (3) Quiz	Fourteenth week	1	1
14	assignment of duties, discussions	Weeks 2,3,5,6,7,8,9,10,11,12,13	5.5	5.5
15	Final Practical Test	Final Semester Exams	20	20
	Total	100	%100	%100


12. Learning and Teaching Resources


Required textbooks (curricular books, if any)	Dates and Sugar Technology, 2019 Author: dr. Adnan Wahab al-Muzaffar
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	Ministry of Higher Education and Scientific Research/Iraq
Main references (sources)	Palm Dates, by: Dr. Abdul Jabbar Al-Ba
Recommended books and references (scientific journals, reports...)	The feasibility of producing apple molasses as an economic marketing alternative to poor fruit loss in Suwayda. Safwan Abu Assaf and others, 2015
Electronic References, Websites	https://t.me/agricultural_eng


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 Dr. Roqaya fouad lafy


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 Prof. Dr. Sumiya kalaf badawi