

Course Description Form

1. Course Name:

Food factories engineering

2. Course Code:

FOFE240

3. Semester / Year:

Second semester (spring)/2024-2025

4. Description Preparation Date:

1/2/2025

5. Available Attendance Forms:

Attendance lesson

6. Number of Credit Hours (Total) / Number of Units (Total): units

30 hours/30 units+ 45 hours/

7. Course administrator's name (mention all, if more than one name):

Name: Assistant professor dr. Oday hasan ali al-jammaas

Email: dr.oday_aljammaas@uomosul.edu.iq

Assistant lecturer Mead waleed saadullah

Email: Mead@uomosul.edu.iq

8. Course Objectives

Theoretical:

- Enabling the student to understand and comprehend what is related to the units to be used to measure the various dimensions within the engineering system of the food factory.
- Enable the student to know the equations needed to be used in mass balancing
- Enabling the student to be familiar with the most important energy budget calculations
- Enable the student with the ability to determine the circumstances of use of some devices.
- The student can judge the efficiency of some devices by performing calculations for that

practical:

- Enabling the student to become familiar with measuring devices and their various applications in various food laboratories

9. Teaching and Learning Strategies



Theoretical:

Interactive lecture with the use of presentations – dialogue Discussion - brainstorming - assigning tasks and reporting.

practical:

Assigning group work and revealing students' skills - assignment Assignments to write a report for each experiment.

10. Course Structure

Week	Hours	Required Learning Outcomes	Name of Unit or subject	Learning method	Evaluation method
First	2Theoretical 3Practical	Theoretical: al: Learn about the most important dimensions and their units of measurement in the international and British systems of units. Practical: bl: Represents the metals and alloys used in the manufacture of food laboratory equipment in the form of a flow chart.	Theoretical: Dimensions and units practical: Metals and alloys used in the manufacture of food processing equipment	Theoretical: Auditory methods Writing style on the blackboard Direct dialogue style practical : Assigning tasks and reporting	Short exams, assignments, or discussions
Second	2Theoretical 3Practical	Theoretical: al: Learn about the most important dimensions and their units of measurement in the international and British systems of units. Practical: bl: Represents the metals and alloys used in the manufacture of food laboratory equipment in the form of a flow chart.	Theoretical: Balance of matter and energy practical: Measuring devices	Theoretical: Auditory methods Writing style on the blackboard Direct dialogue style practical : Assigning tasks and reporting	Short exams, assignments, or discussions
Third	2Theoretical 3Practical	Theoretical: al: Learn about the most important dimensions and their units of measurement in the international and British systems of units. Practical: bl: Represents the metals and alloys used in the manufacture of food laboratory equipment in the form of a flow chart.	Theoretical: Fluid flow practical: Steam boilers	Theoretical: Auditory methods Writing style on the blackboard Direct dialogue style practical : Assigning tasks and reporting	Short exams, assignments, or discussions
Fourth	2Theoretical 3Practical	Theoretical: al: Learn about the most important dimensions and their units of measurement in the international and British systems of units.	Theoretical: Fluid flow (matter and energy balance) + Bernoulli's equation	Theoretical: Auditory methods Writing style on the blackboard	Short exams, assignments, or discussions



		measurement in the international and British systems of units. Practical: b1: Represents the metals and alloy used in the manufacture of food laboratory equipment in the form of a flow chart.	practical: Pump systems	Direct dialogue style practical : Assigning tasks and reporting	
Fifth	2Theoretical 3Practical	Theoretical: a1: Learn about the most important dimensions and their units of measurement in the international and British systems of units. Practical: b1: Represents the metals and alloy used in the manufacture of food laboratory equipment in the form of a flow chart.	Theoretical: Loss of thermal energy and measurement of pressure generated by fluid flow practical: Heat transfer methods	Theoretical: Auditory methods Writing style on the blackboard Direct dialogue style practical : Assigning tasks and reporting	Short exams, assignments, or discussions
Sixth	2Theoretical 3Practical	Theoretical: a1: Learn about the most important dimensions and their units of measurement in the international and British systems of units. Practical: b1: Represents the metals and alloy used in the manufacture of food laboratory equipment in the form of a flow chart.	Theoretical: Thermal energy transfer practical: Cooling systems	Theoretical: Auditory methods Writing style on the blackboard Direct dialogue style practical : Assigning tasks and reporting	Short exams, assignments, or discussions
Seventh	2Theoretical 3Practical	Theoretical: a1: Learn about the most important dimensions and their units of measurement in the international and British systems of units. Practical: b1: Represents the metals and alloy used in the manufacture of food laboratory equipment in the form of a flow chart.	Theoretical: Total thermal energy transfer coefficient in heating and cooling practical: Freezing systems	Theoretical: Auditory methods Writing style on the blackboard Direct dialogue style practical : Assigning tasks and reporting	Short exams, assignments, or discussions
eighth	2Theoretical 3Practical	Theoretical: a1: Learn about the most important dimensions and their units of measurement in the international and British systems of units. Practical: b1: Represents the metals and alloy used in the manufacture of food laboratory equipment in the form of a flow chart.	Theoretical: heat exchangers practical: Watch heat exchangers and how to maintain them	Theoretical: Auditory methods Writing style on the blackboard Direct dialogue style practical : Assigning tasks and reporting	Short exams, assignments, or discussions



		of a flow chart.			
Ninth	2Theoretical 3Practical	Theoretical: a1: Learn about the most important dimensions and their units of measurement in the international and British systems of units. Practical: b1: Represents the metals and alloys used in the manufacture of food laboratory equipment in the form of a flow chart.	Theoretical: heat exchangers practical: Watch heat exchangers and how to maintain them	Theoretical: Auditory methods Writing style on the blackboard Direct dialogue style practical : Assigning tasks and reporting	Short exams, assignments, or discussions
Tenth	2Theoretical 3Practical	Theoretical: a1: Learn about the most important dimensions and their units of measurement in the international and British systems of units. Practical: b1: Represents the metals and alloys used in the manufacture of food laboratory equipment in the form of a flow chart.	Theoretical: Thermodynamics of food freezing and expected properties of frozen food practical: Learn about drying systems	Theoretical: Auditory methods Writing style on the blackboard Direct dialogue style practical : Assigning tasks and reporting	Short exams, assignments, or discussions
Eleventh	2Theoretical 3Practical	Theoretical: a1: Learn about the most important dimensions and their units of measurement in the international and British systems of units. Practical: b1: Represents the metals and alloys used in the manufacture of food laboratory equipment in the form of a flow chart.	Theoretical: Food steaming practical: Food fumigation systems	Theoretical: Auditory methods Writing style on the blackboard Direct dialogue style practical : Assigning tasks and reporting	Short exams, assignments, or discussions
Twelfth	2Theoretical 3Practical	Theoretical: a1: Learn about the most important dimensions and their units of measurement in the international and British systems of units. Practical: b1: Represents the metals and alloys used in the manufacture of food laboratory equipment in the form of a flow chart.	Theoretical: Food drying practical: Size reduction systems for food	Theoretical: Auditory methods Writing style on the blackboard Direct dialogue style practical : Assigning tasks and reporting	Short exams, assignments, or discussions
Thirteenth	2Theoretical 3Practical	Theoretical: a1: Learn about the most important dimensions and their units of measurement in the international and British systems of units.	Theoretical: Food extraction practical: Food separation systems	Theoretical: Auditory methods Writing style on the blackboard Direct dialogue style practical : Assigning tasks and	Short exams, assignments, or discussions



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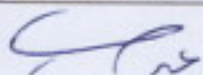
		Practical: b1: Represents the metals and alloys used in the manufacture of food laboratory equipment in the form of a flow chart.		reporting	
Fourteenth	2Theoretical 3Practical	Theoretical: a1: Learn about the most important dimensions and their units of measurement in the international and British systems of units. Practical: b1: Represents the metals and alloys used in the manufacture of food laboratory equipment in the form of a flow chart.	Theoretical: Distillation process for food Practical: Food mixing systems	Theoretical: Auditory methods Writing style on the blackboard Direct dialogue style practical : Assigning tasks and reporting	Short exams, assignments, or discussions
Fifteenth	2Theoretical 3Practical	Theoretical: a1: Learn about the most important dimensions and their units of measurement in the international and British systems of units. Practical: b1: Represents the metals and alloys used in the manufacture of food laboratory equipment in the form of a flow chart.	Theoretical: Distillation process for food Practical: Food mixing systems	Theoretical: Auditory methods Writing style on the blackboard Direct dialogue style practical : Assigning tasks and reporting	Short exams, assignments, or discussions

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 . The average is calculated from 25 for theory, as well as for practical, with an average of 15.

12. Learning and Teaching Resources

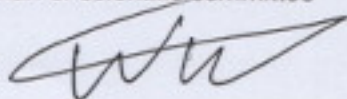
Required textbooks (curricular books, if any)	Different lectures
Main references (sources)	-----
Recommended books and references (scientific journals, reports...)	-----
Electronic References, Websites	-----



Instructor of theoretical part

dr. Oday hasan ali al-jammaas

Chairman of scientific committee





Instructor of practical part

Mead waleed saadullah

Head of the department of Food science

