Course Description Form

1. Course Name:

Principles of engineering workshops

2. Course Code:

PREW133

3. Semester / Year:

Second semester (spring)/2023-2024

4. Description Preparation Date:

1/2/2024

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
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Assistant lecturer Mead waleed saadullah
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8. Course Objectives

Theoretical:	**practical:**
- Enabling the student to understand and absorb what is related to the principles of engineering workshops within food laboratories - Enabling the student to know the most important means used in transferring and converting power in food factories - Enabling the student to become familiar with how to design the water system inside the laboratory - Enabling the student to be able to identify the components of electrical installations within food processing plants - The student can judge the safety conditions of devices and equipment	- Enable the student to become familiar with the equipment, devices and tools that must be available in food industry laboratories

9. Teaching and Learning Strategies

Theoretical:	practical:

Interactive lecture with the use of presentations – dialogue Discussion - brainstorming - assigning tasks and reporting.	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:** B1: **Explains the concept of motio transmission in food indust laboratories.** **Practical:** B7: **Writes a brief overview of the devices used in power transmission.**	**Theoretical:** **Movement and its types** **practical:** Power transmission devi	**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:** C1: Explains the most important differences between power transmission methods. **practical:** C5: **Shows the mathematical applications used.**	**Theoretical:** Power transmissic means **practical:** Sports applications	**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:** B2: The efficiency of power transmission means is judged the obtained transmission rat **practical:** B8: Explains the differences betw types of pumps.	**Theoretical:** Transmission ratio Pumps and their basic operation **practical:** Types of pumps Rafts	**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:** A1: The efficiency of power transmission means is judged the obtained transmission rat **practical:** A5: Explains the differences betwee types of pumps.	**Theoretical:** Transmission ratio Pumps and their basic operation **practical:** Types of pumps Rafts	**Theoretical:** Auditory methods Writing style on the blackboard Direct dialogue style **practical :** Assigning tasks and reporting	Short exams, assignments, or discussions
Fifth	2Theoretical 3Practical	**Theoretical:** C2: **Familiarizes with the factors affecting obtaining a typical pumping curve.** **practical:** C6:	**Theoretical:** Pump curves **practical:** Electrical cycle general applications	**Theoretical:** Auditory methods Writing style on the blackboard Direct dialogue style **practical :**	Short exams, assignments, or discussions

		Try out how the electric cycle works.		Assigning tasks and reporting	
Sixth	2Theoretical 3Practical	**Theoretical:** C3: **Recognizes the symbols of wa establishments.** **practical:** C7: The number and materials used water installations are represented in a tabular form.	**Theoretical:** Water establishment symbols **practical:** Numbers and materials used in water installatio	**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:** C4: Explains the concept of main electricity and its role in food industry laboratories. **practical:** C8: **Write a brief overview of the electrical cycle.**	**Theoretical:** Main electricity **practical:** Electrical cycle	**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:** A2: **Learn about the mechanics of electric motors.** **practical:** A6: **Shows the general applicatio used.**	**Theoretical:** Electric motor **practical:** General applications	**Theoretical:** Auditory methods Writing style on the blackboard Direct dialogue style **practical :** Assigning tasks and reporting	Short exams, assignments, or discussions
Ninth	2Theoretical 3Practical	**Theoretical:** B3: **Proficient in electrical establishment methods** **practical:** B9: Explains how electrical energ transmitted.	**Theoretical:** Electrical establishment **practical:** Electrical energy transmission	**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:** A3: **It suggests a suitable method introducing and extracting a from food factories.** **practical:** A7: **Explains the necessity of the ground electrical line in foo industry equipment and laboratories**	**Theoretical:** Food laboratory ventilat **practical:** How to create ground applications	**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:** B4: He is familiar with the sources o spoilage and corruption when storing various agricultural products.	**Theoretical:** Storage of agricultural products **practical:** Air distribution systems	**Theoretical:** Auditory methods Writing style on the blackboard Direct dialogue style **practical :** Assigning tasks and	Short exams, assignments, or discussions

		practical: B10: Controls air distribution system within food laboratories.		reporting	
Twelveth	2Theoretical 3Practical	**Theoretical:** E1: **It shows the changes in voltages in a three-phase electrical cycle.** **practical:** E2: Writes a brief overview of refrigeration devices.	**Theoretical:** Electrical cycle **practical:** Cooling devices	**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:** A4: **Learn about the most important refrigeration and freezing equipment.** **practical:** A8: Heat pumps are represented l drawing.	**Theoretical:** **Refrigeration and freezing equipment** **practical:** Heat pumps	**Theoretical:** Auditory methods Writing style on the blackboard Direct dialogue style **practical :** Assigning tasks and reporting	Short exams, assignments, or discussions
Fourteenth	2Theoretical 3Practical	**Theoretical:** B5: **Familiar with the most important methods used in examining devices** **Practical:** B11: Explains the types of welc used in food industry facilities	**Theoretical:** Methods for checking devices **Practical:** Types of welding	**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:** B6: Learn how to repair refrigerat equipment. **practical:** B12: Experimenting with the welc process in a food proces plant.	**Theoretical:** Unloading and charging devices and repairing refrigeration equipment **practical:** Practical application of welding and repair of refrigeration equipment	**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)	Diffeent lectures
Main references (sources)	----------
Recommended books and references (scientific journals, reports…)	----------
Electronic References, Websites	----------

Instructor of theoritical part

dr. Oday hasan ali al-jammaas

Instructor of practical part

Mead waleed saadullah

Chairman of the scientific committee

Prof. Dr. Moafak mahmood ahmed

Head of the department of Food science

Prof. Dr. Sumaya khalaf badawi