Course Description Form

1. Course Name:
Post Harvest Equipment
2. Course Code:
POHE482
3. Semester / Year:
Second semester 2024-2025
4. Description Preparation Date:
1/2/2025
5. Available Attendance Forms:
Combined (Attendance + distance education)
6. Number of Credit Hours (Total) / Number of Units (Total)
30 theoretical hours +45 practical hours =75 hours / 3.5 Units
7. Course administrator's name (mention all, if more than one name)
Name: Ahmed Mohammad Ameen Saeed Email:ahmed_ameem@uomosul.edu.iq Salih Sabrry Ali
8. Course Objectives
1- Acquiring knowledge in improving post-harvest crop transactions and food processing to reduce losses in the agricultural field and open markets for national agricultural products that are compatible with international production and quality systems. 2- The ability to develop modern agricultural production systems in line with the general trend in production and market requirements for human resources capable of dealing with those systems. 3 - The ability to improve post-harvest crop and food processing transactions 4- Graduating agricultural engineers and researchers to serve the agricultural sector in the field of post-harvest equipment in the correct manner, with the aim of improving agricultural production processes in quantity and quality.
9. Teaching and Learning Strategies
1-Interactive lecture 2-Brainstorming 3-Dialogue and discussion 4-Field Training 5-Practical exercises 6-Field project 7-Self-education

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2 theoretical	a1 the student knows the importance of post-harvest equipment a5 and distinguishes between its different types	Introduction to the importance of post-harvest equipment	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Short daily test1 Semester test1 Final test
	3 Practical	a2 the student classifies post-harvest equipment according to the order of operations for agricultural crops	Classification of post-harvest equipment according to the order of the stages that agricultural crops go through	Interactive lecture, brainstorming, dialogue and discussion, field training, and self-learning	Short daily test1 Semester test1 Final test
2	2 theoretical	a1the student knows the types of agricultural trailers and loaders used in the fields	Equipment for handling and transporting agricultural products (trailers and loaders).	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Short daily test1 Semester test1 Final test
	3 Practical	a2 the student learns how agricultural trailers work c3 and field experiments are being conducted on it	Practical field applications on agricultural trailers and loaders	Interactive lecture, brainstorming, dialogue and discussion, field training, and self-learning	Short daily test1 Semester test1 Final test
3	2 theoretical	a2 the student classifies the types of vectors for agricultural crops a1 knows how each type and its parts work	The working mechanism of all types of conveyors (conveyor belt, chain, and auger)	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Short daily test1 Semester test1 Final test
	3 Practical	a2 the student understands the laws and mathematical equations about transporting materials using a conveyor belt, auger, and chain conveyor a3 the student solves mathematical problems various vectors	Solve mathematical exercises and problems about transporting materials by conveyor belt, auger, and chain conveyor	Interactive lecture, brainstorming, dialogue and discussion, field training, and self-learning	Short daily test1 Semester test1 Final test
4	2 theoretical	a2the student understands techniques for clearing and grading agricultural crops	Techniques for cleaning and grading agricultural crops	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Short daily test1 Semester test1 Final test
	3 Practical	a2 the student learns about the machines used to clean and grade seeds c5 evaluates the efficiency of its work	A field visit to one of the grain purification and grading plants to see first-hand the mechanism of its work	Interactive lecture, brainstorming, dialogue and discussion, field training, and self-learning	Short daily test1 Semester test1 Final test
5	2 theoretical	a2 the student understands the techniques of cleaning	Cleaning techniques for agricultural crops	Interactive lecture, brainstorming, dialogue and	Short daily test1

		machines for agricultural crops		discussion, self-learning	Semester test1 Final test
	3 Practical	c3 the student conducts experiments on a laboratory grain cleaning device	Laboratory applications and experiments on the laboratory grain cleaning device	Interactive lecture, brainstorming, dialogue and discussion, field training, and self-learning	Short daily test1 Semester test1 Final test
6	2 theoretical	a2 the student understands the basics of choosing cleaning machines for agricultural crops	Principles for choosing cleaning machines for agricultural crops	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Short daily test1 Semester test1 Final test
	3 Practical	c3 the student conducts experiments on agricultural crop cleaning machines	Applications on regulations and standards for agricultural crop cleaning machines	Interactive lecture, brainstorming, dialogue and discussion, field training, and self-learning	Short daily test1 Semester test1 Final test
7	2 theoretical	a2 the student learns about means of increasing the efficiency of seed cleaning machines during sifting	Means of increasing the efficiency of seed cleaning machines during sifting	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Short daily test1 Semester test1 Final test
	3 Practical	c3 the student conducts experiments on seed cleaning machines	Practical laboratory applications and experiments to increase the efficiency of seed cleaning machines	Interactive lecture, brainstorming, dialogue and discussion, field training, and self-learning	Short daily test1 Semester test1 Final test
8	2 theoretical	a2 the student learns about seed grading techniques a5 it distinguishes and distinguishes the basics of classification of seed grading machines	Seed grading techniques and basics of classification of seed grading machines	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Short daily test1 Semester test1 Final test
	3 Practical	c3 the student conducts experiments on a laboratory seed grading device	Laboratory applications and experiments on the laboratory seed grading device	Interactive lecture, brainstorming, dialogue and discussion, field training, and self-learning	Short daily test1 Semester test1 Final test
9	2 theoretical	a2 the student learns about grading machines according to seed length, size, and specific weight	Grading machines according to seed length, size and specific gravity	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Short daily test1 Semester test1 Final test
	3 Practical	c3 the student conducts experiments on grading machines according to the length of the seed its size and specific gravity	Applications and laboratory experiments on grading machines according to seed length, size, and specific gravity	Interactive lecture, brainstorming, dialogue and discussion, field training, and self-learning	Short daily test1 Semester test1 Final test
10	2 theoretical	a2 the student learns about grading machines based on	Grading machines based on electrical energy	Interactive lecture, brainstorming, dialogue and	Short daily test1

		the electrical and magnetic energy and color of grains	And the magnetism and color of the grains	discussion, self-learning	Semester test1 Final test
	3 Practical	c3 the student conducts experiments on grading machines based on the electrical and magnetic energy and color of grains	Applications and laboratory experiments on grading machines based on electrical and magnetic energy and color of grains	Interactive lecture, brainstorming, dialogue and discussion, field training, and self-learning	Short daily test1 Semester test1 Final test
11	2 theoretical	a2the student understands the importance of drying and adjusting seed moisture a5 it distinguishes and types of drying systems and machines	The importance of drying and adjusting seed moisture and types of drying systems and machines	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Short daily test1 Semester test1 Final test
	3 Practical	a2 the student learns about the machines used to dry seeds c5 evaluates the efficiency of its work	A field visit to one of the seed drying plants to learn directly about the mechanism of its work	Interactive lecture, brainstorming, dialogue and discussion, field training, and self-learning	Short daily test1 Semester test1 Final test
12	2 theoretical	a2the student understands seed drying systems a5 it distinguishes the different types of seed dryers	Seed drying systems Using different types of dryers	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Short daily test1 Semester test1 Final test
	3 Practical	c3 the student conducts experiments on laboratory seed drying machines	Laboratory applications and experiments on laboratory seed drying machines	Interactive lecture, brainstorming, dialogue and discussion, field training, and self-learning	Short daily test1 Semester test1 Final test
13	2 theoretical	a2 the student learns about sorting and grading machines and machines for fruits and vegetables	Machines and machines for sorting and grading fruits and vegetables	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Short daily test1 Semester test1 Final test
	3 Practical	c3 the student conducts experiments on sorting and grading machines and machines for fruits and vegetables	Applications and practical experiments on sorting and grading machines for fruits and vegetables	Interactive lecture, brainstorming, dialogue and discussion, field training, and self-learning	Short daily test1 Semester test1 Final test
14	2 theoretical	a2 the student learns about the machines and packing materials for fruits and vegetables	Packing machines and packing materials for fruits and vegetables	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Short daily test1 Semester test1 Final test
	3 Practical	c3 the student conducts experiments on packing machines for fruits and vegetables	Applications and practical experiments on packing machines for fruits and vegetables	Interactive lecture, brainstorming, dialogue and discussion, field training, and self-learning	Short daily test1 Semester test1 Final test

15	2 theoretical	a2 the student learns about the mechanisms of preserving and storing agricultural products (all kinds of grains and fruits. a2 the student learns about vegetables)	Preserving and storing agricultural products (all kinds of grains, fruits and vegetables)	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Short daily test1 Semester test1 Final test
	3 Practical	a2 the student learns about the mechanisms used to store grains in silos c5 evaluates the efficiency of its work	A field visit to the grain storage silo	Interactive lecture, brainstorming, dialogue and discussion, field training, and self-learning	Short daily test1 Semester test1 Final test

10.Course Evaluation

Seq.	Evaluating style	date	marks	Relative weight
1	Home reports	every week	10	10%
2	Short tests	every week	10	10%
3	Semester test 1	The seventh week	10	10%
4	Semester test 2	The final week	10	10%
5	Final practical test	End of the course	20	20%
6	Final theoretical test	End of the course	40	40%
	the total		100	100%

11. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	1-تكنولوجيا البذور 2006 د. عبد الستار الرجيو ود. احمد صالح 2-هندسة تصنيع المنتجات الزراعية 1989 د. عبد الحميد زكريا ود.مدحت عبدالله
Recommended books and references (scientific journals, reports...)	1-اعداد وتداول المحاصيل الزراعية 2013 د.عادل البهنساوي 2- هندسة تصنيع المنتجات الزراعية, د.صلاح عبداللطيف د.ماهر محمد إبراهيم
Electronic References, Websites	https://www.youtube.com

مدرس المادة العملي
م.م.صالح صبري علي

مدرس المادة النظري
م.أحمد محمدأمين سعيد

رئيس قسم المكائن والآلات الزراعية
أ.م.نوفل عيسى محيميد

رئيس اللجنة العلمية
أ.د. عادل أحمد عبدالله