

## Course Description Form

1. Course Name:
Plant Protection Equipment
2. Course Code:
PLPE484
3. Semester / Year:
Second Semester (Spring) 2025-2026 / Fourth Stage
4. Description Preparation Date:
1-2-2026
5. Available Attendance Forms:
Combined (prison + online )
6. Number of Credit Hours (Total) / Number of Units (Total)
60 hours (30 theoretical + 30 practical)/3 units
7. Course administrator's name (mention all, if more than one name)
Name of Lecturer for Theory part: Dr. Musaab Abdul Wahid Muhammad E-mail: goldenagr@uomosul.edu.iq Name of Lecturer for practical part: Mr. Othman Moayad <a href="mailto:Othman.mmt@uomosul.edu.iq">Othman.mmt@uomosul.edu.iq</a>
8. Course Objectives
<ul style="list-style-type: none"><li>- Identify the components and parts of plant protection equipment</li><li>- Explaining the basics and principles of control equipment and their applications in various agricultural fields.</li><li>- Discussing each type of plant protection equipment for agricultural crop production (in terms of installation and function)</li><li>- Make the necessary adjustments for various protective equipment in order to obtain the optimal use of these machines in order to achieve the goal of efficient use.</li><li>- The ability to maintain, maintain and repair agricultural equipment.</li><li>- The ability to disassemble and install these machines.</li><li>- The ability to manage agricultural equipment in the field.</li><li>- The ability to connect machines to the agricultural puller and carry out organizing and calibrating operations for them in a way that suits the agricultural process required to be performed with the agricultural machine.</li></ul>
9. Teaching and Learning Strategies
<ul style="list-style-type: none"><li>- Interactive lecture</li><li>- Brainstorming</li><li>- Dialogue and discussion</li><li>- Field Training</li><li>- Practical exercises</li><li>- Field project</li><li>- Self-education</li></ul>

## 10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Artificial intelligence and machine learning techniques for data analysis and plant disease prediction c1/ Explains the role of protective equipment in the agricultural sector	The importance of using protective equipment and methods of applying it	Dialogue and writing style on the smart board	Discussions and short quiz
	2	b1/ Identify methods of connecting and operating control equipment to the agricultural tractor and rotating in the field	Methods of connecting and operating control equipment to the agricultural tractor in the field	Assigning practical tasks	Discussions and short quiz
2	2	c2/ shows the classification of protective equipment	Classification of protective equipment	Dialogue and writing style on the smart board	Discussions and short quiz
	2	b2/ Learn how to operate and adjust mechanical control equipment to control and eliminate bushes and pest colonies in the field or farm.	Mechanical control equipment	Assigning practical tasks	Discussions and short quiz
3	2	c3/ shows the sections of chemical control equipment	Types of chemical control equipment	Dialogue and writing style on the smart board	Discussions and short quiz
	2	b3/ Learn how to operate and adjust soil preparation equipment and hoeing equipment to control and eliminate bushes	Mechanical control equipment before and during planting	Assigning practical tasks	Discussions and short quiz
4	2	b1/ Lists the sections and classifications of sprinklers	Classification of sprinklers	Dialogue and writing style on the smart board	Discussions and short quiz
	2	b4/ Learn how to operate and adjust hoeing equipment between lines to combat jungles c1/ and calculate productivity	Mechanical control equipment in the presence of the growing crop	Assigning practical tasks	Discussions and short quiz

5	2	a1 / Explains the advantages and disadvantages of the control method	Advantages and disadvantages of the spray control method	Dialogue and writing style on the smart board	Discussions and short quiz
	2	b5/ Learn how to properly operate chemical control and safety equipment while working in the field	Chemical control and safety considerations	Assigning practical tasks	Discussions and short quiz
6	2	a2 / Explains the requirements that must be met by sprinklers	Requirements that must be met in sprinklers	Dialogue and writing style on the smart board	Discussions and short quiz
	2	b6/ Learn how to adjust and change chemical control equipment in the laboratory and field	Adjusting and calibrating chemical spraying equipment	Assigning practical tasks	Discussions and short quiz
7	2	c4 / Shows the most important parts of spray machines	The most important parts of spray machines	Dialogue and writing style on the smart board	Discussions and short quiz
	2	b7/ Identify the components of chemical control equipment and the function of each part	The most important parts of spray equipment	Assigning practical tasks	Discussions and short quiz
8	2	a3 / Shows the most important parts of spray machines	Types of pumps used in sprinklers	Dialogue and writing style on the smart board	Discussions and short quiz
	2	c2/ Identify the productivity and spraying rate calculations before work and adjust the tractor speed based on those calculations	Calculate productivity and spray rate	Assigning practical tasks	Discussions and short quiz
9	2	a4 / Identify the types of ground sprinklers and their functions	Types of ground sprinklers and their functions	Dialogue and writing style on the smart board	Discussions and short quiz
	2	b8/ Learn how to adjust the operation of the duster and maintain it after each spraying round	Maintenance and adjustment of fogging equipment	Assigning practical tasks	Discussions and short quiz
10	2	c5 / Explains the introduction to duster	Classification of dusters	Dialogue and writing style on the smart board	Discussions and short quiz
	2	b9/ Identify the	The main parts that	Assigning	Discussions

		components of the duster and the function of each part	make up the dusters and their types	practical tasks	and short quiz
11	2	a5 Identify the types of ground dusters	Types of ground dusters and their functions	Dialogue and writing style on the smart board	Discussions and short quiz
	2	b10/ Identify the components of fog diffusers and the function of each part	Fog diffusers	Assigning practical tasks	Discussions and short quiz
12	2	b2 / Identify the types of fogger and smokers	Types of foggers and smokers and their functions	Dialogue and writing style on the smart board	Discussions and short quiz
	2	b11/ Practice operating the knapsack sprayer attached to the tractor in the field	Field training	Assigning tasks and reporting	Discussions and short quiz
13	2	a6 / Identifying spraying and air blowing equipment	Spraying and aerial fogging equipment	Audio styles, writing style, direct dialogue style	Discussion report and short test
	2	b12/ Identify ways to treat and dilute pesticides, safety when storing them, and cleaning and storing control equipment e1/ Preserving the environment from pesticide pollution	Maintenance and maintenance for the purpose of storage and safety during work	Assigning tasks and reporting	Discussions and short quiz
14	2	b3 / Identify the designs required in spraying aircraft	Necessary considerations for the design and operation of spraying and fogging aircraft	Dialogue and writing style on the smart board	Discussions and short quiz
	2	b13/ A visit to the Nineveh Agriculture Directorate, Research Division	Scientific visit	Assigning tasks and reporting	Discussions and short quiz
15	2	c6 / Explains the types of mechanical control equipment	Types of mechanical control equipment (hoeing)	Dialogue and writing style on the smart board	Discussions and short quiz
	2	b14/ Identify the types of devices and equipment that contribute to	Determine work paths and field location before and during air control	Assigning tasks and reporting	Discussions and short quiz

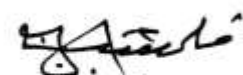
	determining the location of spraying and directing control aircraft in the field.			
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11.Course evaluation				
No.	Evaluation methods	Evaluation date (week)	Grade Relative	weight %
1	Report 1	Week 5	2.5	2.5
2	Report 2	Week 13	2.5	2.5
3	Short test (1) Quiz	Week 3	2	2
4	Short test (2) Quiz	Week 6	2	2
5	Short test (3) Quiz	Week 12	1	1
6	Semester test (1)	Week 6	7.5	7.5
7	Semester test (2)	Week 7	7.5	7.5
8	Final theoretical test	Final semester exams	40	40
9	Practical field project	Week 7	5	5
10	Field evaluation	Weeks 13	2	2
11	Final practical test	final semester exams	20	20
12	Total	100	100%	100%

12.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Control equipment / Suhail Barbara
Main references (sources)	Control equipment / Suhail Barbara
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	Food and Agriculture Organization (FAO)



مدرس المادة العملي  
عثمان مؤيد

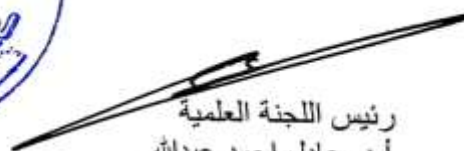


رئيس قسم المكنان والالات الزراعية  
أ.م. د. يوسف يعقوب هلال





مدرس المادة النظري  
د. مصعب عبد الواحد محمد



رئيس اللجنة العلمية  
أ.د. عادل احمد عبدالله