Course Description Form For Management of Agricultural Machineries

1. Course Name:	
Management of Agricultural Machineries	
2. Course Code:	
MAAM483	
3. Semester / Year:	
2nd semester (4th class) 2023-2024	
4. Description Preparation Date:	
1 – 2 – 2024	
5. Available Attendance Forms:	
Blended learning	
6. Number of Credit Hours (Total) / Number of Units (Total)	
75 hr (2-3 hours) / 15 weeks (3.5) units	
7. Course administrator's name (mention all, if more than one name)	
Assistant Prof. Dr. Montaser Khairie Hussain ---------- Lecturer Mahmood Natiq Abdulqader Email: montaser.hussain@uomosul.edu.iq	
8. Course Objectives	
Course Objectives	• Comprehensive understanding of the goals of agricultural mechanization. • Full acquisition of knowledge in the fundamentals of agricultural machinery management. • Knowledge of the obstacles that limit the spread of agricultural mechanization in Iraq and ways to overcome them. • Deepening understanding of estimating fixed and variable costs and how to calculate the total costs of mechanized agricultural operations. • Estimating the performance of agricultural machinery and understanding the factors that affect it. • Learning methods to calculate the productivity rates of agricultural machinery and the elements that influence productivity. • Recognizing the factors that affect improving the performance and efficiency of agricultural machinery.
9. Teaching and Learning Strategies	
Strategy	• Active Learning: Encouraging students to actively participate in the educational process through classroom discussions, case studies, and hands-on training. • Project-Based Learning: Presenting project models and then asking students to apply the knowledge they have gained in analyzing them. • Blended Learning: Combining face-to-face sessions and online educational resources to provide a comprehensive educational experience. • Comprehensive Assessment: Using a variety of assessment methods such as exams, projects, presentations, and reports to effectively measure student progress.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	a2- Understanding the objectives of agricultural mechanization.	Introduction to Agricultural Machinery Management	Interactive Lecture, Discussion	Pre-test
	3	a1- Providing an introduction to the principles of agricultural machinery management.			
2	2	a2- Knowledge of the objectives of agricultural mechanization and the fundamentals of machinery management.	Introduction to Agricultural Machinery Management Objectives of Agricultural Mechanization	Interactive Lecture, Discussion, Field Observation	Quiz
	3	a2- Visiting and becoming acquainted with the components of agricultural mechanization.			
3	2	a3- Analyzing obstacles and searching for solutions to address them.	Obstacles to the Spread of Agricultural Mechanization in Iraq	Interactive Lecture, Discussion	Writing a Report
	3	a2- Explaining examples from the Iraqi reality.			

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
4	2	a2- Knowledge of the fixed costs associated with agricultural machinery.	Fixed Costs	Interactive Lecture, Discussion, Solving Mathematical Questions	Information Survey
	3	c3- Analysis and estimation of fixed costs.			
5	2	a2- Knowledge of the variable costs associated with agricultural machinery.	Variable Costs	Interactive Lecture, Discussion, Solving Mathematical Questions	Quiz
	3	c3- Analysis and estimation of variable costs.			
6	2	a2- Knowledge of the different costs associated with agricultural machinery.	Calculating Total Costs	Interactive Lecture, Discussion, Solving Mathematical Questions	Homework Assignments
	3	c3- Analysis and estimation of various costs.			
7	2	a2- Applying knowledge in estimating the operating costs of tractors.	Operating Costs of Agricultural Tractors 1	Interactive Lecture, Discussion, Solving Mathematical Questions	First Midterm Exam (Theory) + (Practical)
	3	b1- Performing mathematical calculations.			
8	2	a2- Applying knowledge in estimating the operating costs of tractors.	Operating Costs of Agricultural Tractors 2	Interactive Lecture, Discussion, Solving Mathematical Questions	Homework Assignments
	3	c1- Performing mathematical calculations.			
9	2	c3- Analyzing and estimating the performance of agricultural machinery.	Estimating the Performance of Agricultural Machinery 1	Interactive Lecture, Discussion, Solving Mathematical Questions	Homework Assignments
	3	b1- Performing mathematical calculations.			
10	2	c3- Analyzing and estimating the performance of agricultural machinery.	Estimating the Performance of Agricultural Machinery 2	Interactive Lecture, Discussion, Solving Mathematical Questions	Quiz
	3	b1- Performing mathematical calculations.			
11	2	c3- Mastering productivity calculations and analyzing the factors that influence it.	Calculating Productivity Rates of Agricultural Machinery	Interactive Lecture, Discussion, Solving Mathematical Questions	Homework Assignments
	3	b1- Performing mathematical calculations.			
12	2	c3- Being able to evaluate the total costs of agricultural operations.	Calculating Costs of Agricultural Operations 1	Interactive Lecture, Discussion, Solving Mathematical Questions	Homework Assignments
	3	b1- Being able to perform cost calculations for agricultural operations.			
13	2	c3- Being able to evaluate the total costs of agricultural operations.	Calculating Costs of Agricultural Operations 2	Interactive Lecture, Discussion, Solving Mathematical Questions	Homework Assignments
	3	b1- Being able to perform cost calculations for agricultural operations.			

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
14	2	a3- Comprehensive understanding of the principles followed to maintain good management.	Fundamentals of Agricultural Machinery and Equipment Management	Interactive Lecture, Discussion, Solving Mathematical Questions	Second Midterm Exam (Practical)
	3	b3- Visiting and evaluating management methods.			
15	2	c3- Understanding and recognizing the factors that affect the improvement of performance and efficiency of agricultural machinery.	Improving Field Efficiency of Agricultural Machinery	Interactive Lecture, Discussion, Field Observations	Second Midterm Exam (Theory)
	3	b3- Applying strategies to improve performance and efficiency.			

11. Course Evaluation

	Assessment Methods	Evaluation Dates (Week)	Score	Relative Weight %
1	Quiz	Weeks 2, 6, 9, 11	5	5
2	Midterm Exam (theoretical)	Weeks 7, 15	20	20
3	Report Writing + Report Discussion + Short Quiz	Weeks 3, 5, 8, 10, 12, 13, 14	5	5
4	Midterm Exam (Practical)	Weeks 7, 14	10	10
5	Final Practical Exam	End-of-Term Exam	20	20
6	Final Theoretical Exam	End-of-Term Exam	40	40
	Total		100	100%

Learning and Teaching Resources

Required textbooks (curricular books, if any)	Economics and management of agricultural machinery and equipment (Al-Tahan, et al. 1991)
Primary references (sources)	-
Recommended books and references (scientific journals, reports...)	1- 15th International Congress on Agricultural Mechanization and Energy in Agriculture (2023) https://doi.org/10.1007/978-3-031-51579-8 2- Farm Machinery and Processes Management in Sustainable Agriculture. XI International Scientific Symposium (2022) https://doi.org/10.1007/978-3-031-13090-8 Advances in Agricultural Machinery and Technologies (2018)
Electronic References, Websites	YouTube

Theoretical part Lecture
Assist. Prof. Dr. Montaser Kh. Khessro

Practical part Lecture
Lecturer Mahmood Natiq Abdulqader

Chairman of the Scientific Committee
Prof. Dr. Arkan Mohammed Amin

Head of Department
Assist. Prof. Nofal Eissa Mheimed