

## Course Description Form of Agricultural equipment and machinery

<b>1. Course Name:</b>	
Agricultural equipment and machinery	
<b>2. Course Code:</b>	
(AGEM213)	
<b>3. Semester / Year:</b>	
Second semester/ 2024-2025	
<b>4. Description Preparation Date:</b>	
20/1/2025	
<b>5. Available Attendance Forms:</b>	
Full time (theoretical lecture and practical lecture) weekly	
<b>6. Number of Credit Hours (Total) / Number of Units (Total)</b>	
5 hours (2 hours theoretical and 3 hours practical per week) for 14 weeks, number of units 3.5 units	
<b>7. Course Administrator's Name (Mention All, If More Than One Name)</b>	
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<b>8. Course Objectives</b>	
Course Objectives: Graduating students who are able to:	Studying the types of agricultural machines and machine used in agricultural fields and how to use and maintain them and identify On the components of Each machine and its field of Use and identification of
<b>9. Teaching and Learning Strategies</b>	

Strategy	In-person lectures for 14 weeks, including two monthly exams, daily exams, and scientific reports
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### 10. Course Structure

#### Theoretical part

Week	Hours	Required learning outcomes	Unit or Subject	Learning Method	Evaluation Method
1	2	Basic and Derivative Units Introduction to agricultural machinery	Agricultural equipment and machinery	Lecture Dialogue & discussion Brainstorming	Daily, monthly and final exams and daily reports
2	2	The type and importance of agricultural tractors motion	Agricultural equipment and machinery	Lecture Dialogue & discussion Brainstorming	Daily, monthly and final exams and daily reports
3	2	Transmission in agricultural tractor clutch, gearbox, and differential device properties of matter	Agricultural equipment and machinery	Lecture Dialogue & discussion Brainstorming	Daily, monthly and final exams and daily reports
4	2	Power transmission devices in agricultural tractor like Drawbar, P.T.O. shaft, etc.	Agricultural equipment and machinery	Lecture Dialogue & discussion Brainstorming	Daily, monthly and final exams and daily reports
5	2	Types of internal combustion engines, engine parts,	Agricultural equipment and machinery	Lecture Dialogue & discussion Brainstorming	Daily, monthly and final exams and daily reports
6	Semester 1 <sup>st</sup> exam				
7	2	The difference between a two-stroke and a four-stroke engine, as well as the difference between a diesel engine and a gasoline engine	Agricultural equipment and machinery	Lecture Dialogue & discussion Brainstorming	Daily, monthly and final exams and daily reports
8	2	Explanation of cooling system electrical circuit, and lubrication system	Agricultural equipment and machinery	Lecture Dialogue & discussion Brainstorming	Daily, monthly and final exams and daily reports
9	2	Surface tensile strength, seam angle, capillary property	Agricultural equipment and machinery	Lecture Dialogue & discussion Brainstorming	Daily, monthly and final exams and daily reports
10	2	Tillage equipment (plowing) primary and secondary, Cultivating equipment	Agricultural equipment and machinery	Lecture Dialogue & discussion Brainstorming	Daily, monthly and final exams and daily reports
11	2	Sowing and planting equipment,	Agricultural equipment and machinery	Lecture Dialogue & discussion Brainstorming	Daily, monthly and final exams and daily reports

12	Semester 2 <sup>nd</sup> exam				
13	2	Fertilizing equipment , Harvesting equipment	Agricultural equipment and machinery	<b>Lecture Dialogue &amp; discussion Brainstorming</b>	Daily, monthly and final exams and daily reports
14	2	Plant protection equipment Irrigation equipment (canal opener, pumps)	Agricultural equipment and machinery	<b>Lecture Dialogue &amp; discussion Brainstorming</b>	Daily, monthly and final exams and daily reports
<b>Practical part</b>					
<b>Week</b>	<b>Hours</b>	<b>Required learning outcomes</b>	<b>Unit or Subject Name</b>	<b>Learning Method</b>	<b>Evaluation Method</b>
1	3	Exercises on Basic and Deriva Units	Agricultural equipment and machinery	<b>Observation Dialogue &amp; discussion</b>	Daily, monthly and final exams and daily reports
2	3	Field view of the agricultural tractor, and the agricultural equipment	Agricultural equipment and machinery	<b>Observation Dialogue &amp; discussion</b>	Daily, monthly and final exams and daily reports
3	3	knowing and watching the transmission devices in the agricultural tractor	Agricultural equipment and machinery	<b>Observation Dialogue &amp; discussion</b>	Daily, monthly and final exams and daily reports
4	3	knowing and watching the power transmission devices in agricultural tractor	Agricultural equipment and machinery	<b>Observation Dialogue &amp; discussion</b>	Daily, monthly and final exams and daily reports
5	3	Watching the engine parts	Agricultural equipment and machinery	<b>Observation Dialogue &amp; discussion</b>	Daily, monthly and final exams and daily reports
6	Semester 1 <sup>st</sup> exam				
7	3	knowing and watching the tillage equi[ment and calculating	Agricultural equipment and machinery	<b>Observation Dialogue &amp; discussion</b>	Daily, monthly and final exams and daily reports
8	3	knowing and watching the cultivating equipment	Agricultural equipment and machinery	<b>Observation Dialogue &amp; discussion</b>	Daily, monthly and final exams and daily reports
9	3	knowing and watching the sowing and planting equipment	Agricultural equipment and machinery	<b>Observation Dialogue &amp; discussion</b>	Daily, monthly and final exams and daily reports
10	3	knowing and watching the fertilizing equipment	Agricultural equipment and machinery	<b>Observation Dialogue &amp; discussion</b>	Daily, monthly and final exams and daily reports

11	3	knowing and watching the irrigation equipment,	Agricultural equipment and machinery	<b>Observation Dialogue &amp; discussion</b>	Daily, monthly and final exams and daily reports
12	<b>Semester 2<sup>nd</sup> exam</b>				
13	3	Identify, view and calculate prevention mechanisms.	Agricultural equipment and machinery	<b>Observation Dialogue &amp; discussion</b>	Daily, monthly and final exams and daily reports
14	3	Plant protection equipment Irrigation equipment (canal opener, pumps)	Agricultural equipment and machinery	<b>Observation Dialogue &amp; discussion</b>	Daily, monthly and final exams and daily reports

### 11. Course Evaluation

Daily exams with discussion questions within the lecture  
The degree of participation in questions related to the academic subject

### 12. Learning and Teaching Sources

Required Textbooks (Curricular Books, If Any)	1. Tractors and Orchard mechanization equipment (prepared by Dr. Abdul Rahman Ayoub Al-Sabbagh ) 2. Al-Tahan, Yassin Hashim, and Mohammed Jassim Al-Naama (2000) agricultural machinery and machinery, House of books for printing and publishing, University of Mosul, Ministry of higher education and scientific research Iraq
Main References (Sources)	Agricultural tractors and plant protection equipment (prepared by Lutfi Hussein Mohammed Ali)
Recommended Books and References (Scientific Journals, Reports...)	Iraqi academic journal
Electronic References, Websites	