

Course Description Form Agricultural Machinery and Equipment

Course Name	
Agricultural Machinery and Equipment	
Course Code	
MGRA213	
Semester/ Year	
Second / 2025	
Date of preparation of this description	
15 January 2025	
Available attendance forms	
Full-time (theoretical lecture and practical lecture) weekly	
Number of Credit Hours (Total)/ Number of Units (total)	
2 theoretical hours and 3 working hours per week for 15 weeks, the number of units is 3.5 units	
Name of the course administrator (if more than one name is mentioned)	
Dr. Nasr Salem Hassan                      Email: <a href="mailto:nasirhassen@uodiyala.edu.iq">nasirhassen@uodiyala.edu.iq</a> Dr. Amer Khaled Ahmed	
Course Objectives	
Objectives of the course :	<ol style="list-style-type: none"> <li>1- The science of agricultural machinery and machinery examines the most important machines and machinery used in agricultural fields and the extent of their usefulness</li> <li>2- Includes knowledge of the basic concepts of agricultural machinery and machinery</li> <li>3- Knowledge of the features and specifications of agricultural machinery and machinery</li> <li>4- Knowing the theoretical basis in the work of agricultural machines and the scientific methods used in their use</li> <li>5- Studying the impact of the use of agricultural</li> </ol>

Teaching and Learning Strategies					
Strategy	• 15-week in-person lectures interspersed with two monthly exams, weekly exams and scientific reports				
Theoretical					
Course Structure					
Week	Credits	Intended Learning Outcomes	Module / Course Name or	Teaching*method	Evaluation Method
1	2	General definitions and basic concepts in the science of agricultural machinery and machinery	Agricultural Machinery and Equipment	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Weekly and Monthly Final and Reports Monthlies
2	2	transmission	Agricultural Machinery and Equipment	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Weekly and Monthly Final and Reports Monthlies
3	2	Agricultural tug (definition - general description -job - species)	Agricultural Machinery and Equipment	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Weekly and Monthly Final and Reports Monthlies
4	2	Main parts of the agricultural tug	Agricultural Machinery and Equipment	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Weekly and Monthly Final and Reports Monthlies
5	2	Engine General Description - Fixed and Moving Parts	Agricultural Machinery and Equipment	Explanation and model presentation and lecture	Examinations Weekly and Monthly

				Brainstorming Debating and discussing Brainstorming	Final and Reports Monthlies
6	2	Fuel System (Diesel - Benzene)	Agricultural Machinery and Equipment	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Weekly and Monthly Final and Reports Monthlies
First Quarter Examination					
7	2	Lubrication system (types - parts) Benefits of lubrication	Agricultural Machinery and Equipment	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Weekly and Monthly Final and Reports Monthlies
8	2	Cooling system (water cooling - air cooling)	Agricultural Machinery and Equipment	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Weekly and Monthly Final and Reports Monthlies
9	2	Transmission Devices (Separator - Gearbox - Differential Device - Final Transmission)	Agricultural Machinery and Equipment	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Weekly and Monthly Final and Reports Monthlies
10	2	Hydraulic device - agricultural machinery, its types in terms of the method of connection with the tug	Agricultural Machinery and Equipment	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Weekly and Monthly Final and Reports day
11	2	Primary and secondary soil preparation equipment	Agricultural Machinery and Equipment	Explanation and model presentation and lecture Brainstorming Debating and discussing	Examinations Weekly and Monthly Final and Reports day

				Brainstorming	
12	2	Composting equipment of all kinds	Agricultural Machinery and Equipment	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Weekly and Monthly Final and Reports day
13	2	Irrigation equipment of all kinds	Agricultural Machinery and Equipment	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Weekly and Monthly Final and Reports Monthlies
Second Quarter Examination					
14	2	Plant protective equipment of all kinds	Agricultural Machinery and Equipment	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Weekly and Monthly Final and Reports Monthlies
15	2	Harvesting and harvesting equipment of all kinds	Agricultural Machinery and Equipment	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Weekly and Monthly Final and Reports Monthlies

Practical Part					
Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method
1	3	Familiarization with agricultural machinery and machinery	Agricultural Machinery and Equipment	Case history Brainstorming Debating and discussing	Examinations Weekly and monthly activities. Final and Reports Monthlies

2	3	To know about the means of transmission	Agricultural Machinery and Equipment	Case history Brainstorming Debating and discussing	Examinations Weekly and monthly activities. Final and Reports Monthlies
3	3	Identifying the agricultural tug	Agricultural Machinery and Equipment	Case history Brainstorming Debating and discussing	Examinations Weekly and monthly activities. Final and Reports Monthlies
4	3	Identify the main parts of the agricultural tug	Agricultural Machinery and Equipment	Case history Brainstorming Debating and discussing	Examinations Weekly and monthly activities. Final and Reports
5	3	Motor Identification - Fixed and Moving Parts	Agricultural Machinery and Equipment	Case history Brainstorming Debating and discussing	Examinations Weekly and monthly activities. Final and Reports Monthlies
6	3	Identifying the fuel system (diesel - benzene)	First Exam	Case history Brainstorming Debating and	Examinations Weekly and monthly
7	3	Identifying the lubrication system (its types - parts)	Agricultural Machinery and Equipment	Case history Brainstorming Debating and discussing	Examinations Weekly and monthly activities. Final and Reports Monthlies
8	3	Identifying the cooling system (water cooling - air cooling)	Agricultural Machinery and Equipment	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports Monthlies

9	3	Identifying the transmission devices (separator - speed box - differential device – final transmission)	Agricultural Machinery and Equipment	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports Monthlies
10	3	Identifying the hydraulic device - agricultural machinery, its types in terms of the method of linking with the tug	Agricultural Machinery and Equipment	Case history Brainstorming Debating and discussing	Examinations Weekly and monthly activities. Final and Reports Monthlies
11	3	Identify primary and secondary soil preparation equipment and how to connect it to the drawer	Agricultural Machinery and Equipment	Case history Brainstorming Debating and discussing	Examinations Weekly and monthly activities. Final and Reports Monthlies
12	3	Identify all types of composting equipment and connect them to the drawer	Second Exam	Case history Brainstorming Debating and discussing	Examinations Weekly and monthly activities. Final and Reports
13	3	Identify irrigation equipment of all kinds	Agricultural Machinery and Equipment	Case history Brainstorming Debating and	Examinations Weekly and monthly
14	3	Identify plant protection equipment of all kinds and how to link them to the tug	Agricultural Machinery and Equipment	Case history Brainstorming Debating and discussing	Examinations Weekly and monthly activities. Final and Reports Monthlies
15	3	Identify harvesting and harvesting equipment of all kinds	Agricultural Machinery and Equipment	Case history Brainstorming Debating and discussing	Examinations Weekly and monthly activities. Final and Reports Monthlies

Course Evaluation	
Weekly and monthly exams, reports and student effectiveness during the lecture .	
Learning and Teaching Resources;	
Required textbooks ( methodology if any )	Agricultural machinery and machinery
Key References (Sources)	<ul style="list-style-type: none"> <li>1- College and university website</li> <li>2- University Directory</li> <li>3- Central Library</li> <li>4- The most important books and resources of the department</li> <li>Internet- 5</li> </ul>
Recommended supporting books and references (scientific journals, reports)	C/N H. Roldos de la Sovera, Montevideo
E-References, Websites	