

**Ministry of Higher Education and Scientific Research
Scientific Supervision and Scientific Evaluation Apparatus
Directorate of Quality Assurance and Academic Accreditation
Accreditation Department**



Academic Program and Course Description Guide

2025-2024

Introduction:

The educational program is considered a coordinating and organizing package of academic courses that encompasses procedures and experiences arranged in the form of an academic syllabuses. The main goal of these syllabuses is to improve and build graduates' skills to make them ready for the job market. The program is annually reviewed and evaluated through internal or external audit procedures and programs like the External Examiner Program.

The academic program description offers a brief summary of the main features of the program and its courses. The program indicates the skills offered to students that are developed based on the goals of the academic program. This description represents a cornerstone of the requirements of program accreditation, so it is written by the teaching staff under the supervision of scientific committees of the scientific departments.

This second version of the guide, includes a description of the academic program after updating the subjects and terminologies of the previous guide to respond to the updates and developments of the educational system in Iraq that includes the description of the academic program in its traditional form (annual, quarterly), as well as the adoption of the academic program description circulated according to the letter of the Department of Studies T 3/2906 on 3/5/2023 regarding the programs that adopt the Bologna Process as the basis for their work.

In this regard, we can only emphasize the importance of writing an academic programs and course description to ensure the proper functioning of the educational process.

Academic Program Description Form
For the Academic Year 2024-2025

University Name: Al-Furat Al-Awsat Technical University
Institute: Musayyib Technical Institute
Scientific Department: Farm Machinery Techniques Department
Professional Program Name: Diploma in Farm Machinery Techniques
Final Certificate Name: Diploma in Farm Machinery Techniques
Academic System: Semester
Description Preparation Date: 2024-2025
File Completion Data: 14/2/2025

Signature:

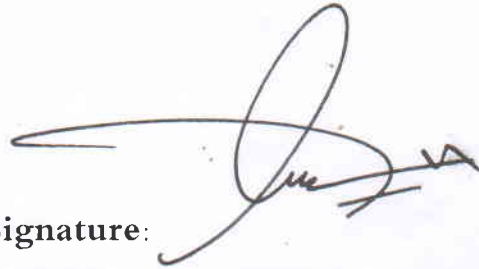


Head of Department Name:

Lecture .Haideer taleb shomran

Date: 20/4/2025

Signature:



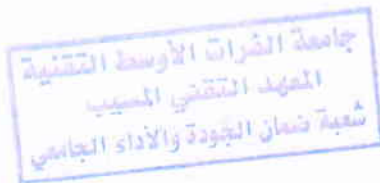
Scientific Associate Name:

Lecture Dr. Mohammed H. Sabry

Date: 20/4/2025

The file is checked by: Assistant Lecture .Walaa Hussein Alawi
Department of Quality Assurance and University Performance
Director of the Quality Assurance and University Performance Department:
Date: 20/04/2025

Signature:



Approval of the Dean

A.P.D. Malik Nema Hawas AL-Khazarji

21.4.2025

1. Program Vision

The Department of Farm Machinery Techniques works through its educational programs to create a technical system based on the requirements and needs of the community and the service facility related to the specialization in a way that serves the technological and technical development in agricultural mechanization sciences.

2. Program Mission

Working to achieve the department's goals and aspirations by creating an appropriate educational environment and providing all the material and human requirements necessary to achieve this. And work to graduate groups capable of serving the community in providing scientific competence in the field of Farm Machinery Techniques sciences through technical education in accordance with internationally approved quality standards.

3. Program Objectives

The Department of Farm Machinery Techniques aims to prepare technical personnel with the ability to work in the field of mechanical, electrical and hydraulic agricultural machinery and equipment and to know how to manage and maintain them.

4. Program Accreditation

There is none.

5. Other external influences

There is none.

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements	30	130	% 100	
College Requirements	30	130	% 100	
Department Requirements	30	130	% 100	
Summer Training	1	Satisfied	Satisfied	
Other				

* This can include notes whether the course is basic or optional.

7. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
First academic year / Autumn semester		Farm Tractors	2	4
		General Soil	2	3
		Plant Production	2	3
		Animal Production	2	2
		Engineering Drawing	–	4
		Human Rights	2	–
		Computer Applications	1	1
		English Language	2	--
		Arabic language	2	--
First academic year / Spring semester		Internal Combustion Engines	2	4
		Workshop	–	8
		Soil Preparation equipment	2	3
		Mathematics	3	–
		Plane and Topographic Surveying	2	3
		Industrial Drawing	–	4
Second academic year / Autumn semester		Tractors Maintenance	1	3
		Transmission	2	3
		Agricultural Machines Electricity	2	3
		Irrigation Equipment	2	2

		Agricultural Machines Hydraulics	2	3
		Agriculture Crop Service	1	3
		Al Baath Regime Crimes	2	-
Second academic year / Spring semester		Tractors Repairing	1	3
		Harvesting Machine	2	3
		Animal Production Machine	1	3
		Agriculture Machine Economic	2	1
		Reclamation Machine & Equipment	2	3
		Principle Machine Use	2	3
		Project	4	-
		Computer Applications	2	4
		English Language	2	-
		Aribic language		

8. Expected learning outcomes of the program

Knowledge

- A1- Knowing the types of agricultural machinery and equipment.
- A2- Knowing the types of agricultural pullers.
- A3- Knowing the parts of the hydraulic system in the tug.
- A4- Knowing the types of equipment used in the field of turning and filing
- A5- Knowing the types of heavy equipment
- A6- Knowing the types of equipment used in mechanizing animal production

Skills

- B1 - Driving agricultural tugs
- B2 - Calibrating the seeds and calculating the amount of seeds needed per unit area and according to the type of seeds
- B3 - Estimate the density of the electrolytic liquid

Ethics

Written tests, semester exams, final exams, daily evaluation.

9. Teaching and Learning Strategies

Lecture, workshop, laboratory, summer training

10. Evaluation methods

Written tests, semester exams, final exams, daily evaluation.

11. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Assistant Professor	Engineering	Production and minerals			1	
lecturer	Engineering	Mechanical			1	
lecturer	Engineering	Agricultural mechanization			1	
lecturer	Engineering	Physics			1	
lecturer	Engineering	Mechanical			1	
Assistant lecturer	Engineering	Agricultural mechanization			1	
Assistant lecturer	Engineering	Agricultural mechanization			1	

Professional Development

Mentoring new faculty members

- 1- Teaching and the ability to cover different subjects efficiently.
- 2- Commitment to working hours and office hours.
- 3- Preparing teaching materials.
- 4- Working as a team.
- 5- Feedback through the peer-to-colleague evaluation process.

Professional development of faculty members

- 1- Research activity.
- 2- Participation and interaction in committees and department meetings.

- 3- Participation in scientific activities.
- 4- The ability to scientific and research development.

12. Acceptance Criterion

Central admission

13. The most important sources of information about the program

https://ims.atu.edu.iq/?page_id=6230

14. Program Development Plan

- 1- Holding workshops to train faculty members.
- 2- Review the description of curriculum vocabulary according to the learning outcomes.
- 3- Sending the program and curricula for external review.
- 4- Reviewing learning policies in light of the results of some exams.

Program Skills Outline

				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
First academic year / Autumn semester		Farm Tractors	Basic			*			*				*		
		General Soil	Basic		*					*		*			
		Plant Production	Basic				*	*					*		
		Animal Production	Bas				*		*				*		
		Engineering Drawing	Basic	*					*				*		
		Human Rights	Basic				*	*						*	
		English Language	Basic				*	*					*		
		Aribic language	Basic					*	*					*	
First academic year / Spring semester		Internal Combustion Engines	Basic		*					*				*	
		Workshop	Basic			*				*			*		
		Soil Preparation equipment	Basic		*				*				*		
		Mathematics	Basic		*				*					*	
		Plane and Topographic Surveying	Basic	*				*				*			
		Industrial Drawing	Basic	*				*							*

		Computer Applications	Basic		*						*	*			
		English Language	Basic		*			*					*		
Second academic year / Autumn semester		Tractors Maintenance	Basic		*				*				*		
		Transmission	Basic	*				*					*		
		Agricultural Machines Electricity	Basic			*		*						*	
		Irrigation Equipment	Basic		*			*				*			
		Agricultural Machines Hydraulics	Basic		*				*			*			
		Agriculture Crop Service	Basic			*		*						*	
		Al Baath Regime Crimes	Basic			*		*							*
Second academic year / Spring semester		Tractors Repairing	Basic			*		*				*			
		Harvesting Machine	Basic		*			*					*		
		Animal Production Machine	Basic	*				*					*		
		Agriculture Machine Economic	Basic	*				*				*			
		Reclamation Machine & Equipment	Basic		*						*	*			

		Principle Machine Use	Basic	*					*				*		*
		Project	Basic		*				*				*		
		Computer Applications	Basic			*				*				*	
		English Language (2)	Basic			*				*			*		
		Aribic language	Basic			*				*			*		

- Please tick the boxes corresponding to the individual program learning outcomes under evaluation.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
The First	6	Identify the types of pullers	The importance of mechanization - types of agricultural pullers	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Second	6	Identify the main parts of the tug and the function of each part	Main parts of agricultural tug	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Third	6	Identifying human ability to tolerate heat and noise - driving space requirements	The influence of the human factor on the design of tugs	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Fourth	6	Identifying the relationship between the soil and the tow truck by learning about sliding and soil mechanics	Drag theory	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fifth	6	Identify the effect of the tow weight on the towing process and overcoming rolling resistance	Rolling resistance – the effect of weight on drag	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Sixth	6	Learn how to distribute weights and balance - determine the moment of inertia	Mechanical structure of the tug	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Seventh	6	Learn about methods for determining the center of gravity of a tug	Center of gravity and how to find it	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Eighth	6	Identify the parts of the electrical system and the function of each part	Electrical system	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Ninth	6	Identify the parts of the electric generator and the theory of its operation	The generator, its parts, and the theory of its operation	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Tenth	6	Identify the means of transmission - gear box - clutch	Means of transportation	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Eleventh	6	Identify the main parts	Hydraulic	The workshop	Written tests

		of the hydraulic system and the types of pumps used in it	system	lecture Laboratory summer training	Quarterly exams final exams Daily evaluation
Twelfth	6	Identify the main parts of the rotation device, their function, malfunctions, and maintenance	Rotation device	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Thirteenth	6	Identify the sources of power in the tug from the tow shaft, the hydraulic device, and the rear drive shaft	Power sources in the tug	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fourteenth	6	Identify the types of power emerging from the tug and how to measure it	Tug tests – methods for calculating capacity	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fifteenth	6	Maintaining agricultural tractors and preparing them for work	Methods of maintaining agricultural tractors	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	General principles for agricultural haulers
Main references (sources)	General principles for agricultural haulers
Recommended books and references (scientific journals, reports...)	A collection of books in the field of maintenance of agricultural tractors and their types
Electronic References, Websites	Check out websites in this field

Course Description Form

13. Course Name: Workshop

14. Course Code: First academic year / Autumn semester

15. Semester / Year: First academic year / Autumn semester

16. Description Preparation Date: 2024/2/14

17. Available Attendance Forms: Attend a lecture

18. Number of Credit Hours (Total) / Number of Units (Total): 4 hours / 4 units

19. Course administrator's name (mention all, if more than one name):

Name: mohaned mossa

Email: _mohaned.hamza@atu.edu.iq

20. Course Objectives

Course Objectives

- **Training the student on the types and methods of welding to benefit from them in equipment repair operations.**

21. Teaching and Learning Strategies

Strategy

- 1- Introducing and training the student on the components of welding devices and how to use them.**
- 2- The student will be able to perform various welding operations using gas welding and the cutting process Gas and electric arc welding in its various for**

22. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
The First	4	Identifying the welding device (oxyacetylene) - the components of the device - how to read and organize the device's measurements - how to obtain the appropriate torch - how to use the welding torch and the cutting head.	Welding device (oxyacetylene) - the components of the device - how to read and organize the device's measurements - how to obtain the appropriate torch - how to use the welding torch and the cutting head.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Second	4	Learn about a practical exercise on welding and gas leakage in a straight line using iron wire and lead - how to use a welding torch - the correct grip of the handle and how to weld.	Practical exercise on welding and gas leakage in a straight line using iron wire and lead - how to use a welding torch - the correct grip of the handle and how to weld.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Third	4	Learn about a practical exercise on welding and gas deposition in the shape of the letter (V) using iron wire and lead.	Practical exercise on welding and gas deposition in the shape of the letter (V) using iron wire and lead.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Fourth	4	Learn about a practical exercise on L-shaped gas welding and welding.	Practical exercise on L-shaped gas welding and welding.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fifth	4	Learn about a practical exercise on gas cutting - how to cut metal pieces - using a cutting head.	Practical exercise on gas cutting - how to cut metal pieces - using a cutting head.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Sixth	4	Learn about a practical exercise on cutting with gas using guidance tools - how to cut straight with gas.	Practical exercise on cutting with gas using guidance tools - how to cut straight with gas.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Seventh	4	Getting to know the electric arc welding	the electric arc welding device - getting to	The workshop	Written tests Quarterly exams

		device - getting to know the device and the fixed and engine-powered electric current generators - learning about the electrodes, the wire and its relationship to the electric current - and the types of wires.	know the device and the fixed and engine-powered electric current generators - learning about the electrodes, the wire and its relationship to the electric current - and the types of wires.	lecture Laboratory summer training	final exams Daily evaluation
Eighth	4	Learn about a practical exercise on welding and deposition - using an electric arc in a straight line using iron wires suitable for current.	Practical exercise on welding and deposition - using an electric arc in a straight line using iron wires suitable for current.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Ninth	4	Learn about a practical exercise on zigzag arc welding and deposition using suitable iron wires.	Practical exercise on zigzag arc welding and deposition using suitable iron wires.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Tenth	4	Learn about a practical exercise on welding and deposition by electric arc in an oval shape using iron wires suitable for current.	Practical exercise on welding and deposition by electric arc in an oval shape using iron wires suitable for current.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Eleventh	4	Learn about a practical exercise on welding and deposition with an electric arc in the shape of the letter (V) using iron wires suitable for current.	Practical exercise on welding and deposition with an electric arc in the shape of the letter (V) using iron wires suitable for current.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Twelfth	4	Learn about a practical exercise on L-shaped arc welding and deposition using suitable iron wires.	Practical exercise on L-shaped arc welding and deposition using suitable iron wires.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Thirteenth	4	Learn about a practical exercise on welding and deposition by electric arc (angle welding).	Practical exercise on welding and deposition by electric arc (angle welding).	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fourteenth	4	Learn about a practical exercise on welding and deposition by	Practical exercise on welding and deposition by electric arc (vertical	The workshop lecture	Written tests Quarterly exams final exams

		electric arc (vertical welding).	welding).	Laboratory summer training	Daily evaluation
Fifteenth	4	Learn about a practical exercise on welding two pieces together (with an electric arc).	Practical exercise on welding two pieces together (with an electric arc).	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation

23. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

24. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	Check out websites in this field

Course Description Form

25. Course Name: General Soil

26. Course Code: First academic year / Autumn semester

27. Semester / Year: First academic year / Autumn semester

28. Description Preparation Date: 2024/2/14

29. Available Attendance Forms: Attend a lecture

30. Number of Credit Hours (Total) / Number of Units (Total): 5 hours / 5 units

31. Course administrator's name (mention all, if more than one name):

Name: Mustafa H. Waryoosh

Email: Wr.mustafa@atu.edu.iq

32. Course Objectives

- | | |
|--------------------------|---|
| Course Objectives | <ul style="list-style-type: none">• Identifying the nature and properties of soil as a medium for various agricultural mechanization activities and creating a suitable bed for the seed.• The possibility of analyzing soil characteristics to determine the type and size of agricultural mechanization necessary to serve the crop. |
|--------------------------|---|

33. Teaching and Learning Strategies

- | | |
|-----------------|---|
| Strategy | <ol style="list-style-type: none">1- Learn about soil science.2- Identifying the mortar rocks of the soil.3- Identify the physical properties of the soil.4- Identify the types of layers that make up the soil. |
|-----------------|---|

34. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
The First	5	Learn about soil science	Soil science - its definition and branches - applied value.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Second	5	Identify the rocks that make up the parent material	The rocks that make up the parent material.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Third	5	Identify the physical properties of soil - bulk density	A study of the physical properties of soil - bulk density.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Fourth	5	Identify the true density of the soil	True density.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fifth	5	Soil porosity	Soil porosity.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Sixth	5	Soil texture (texture)	Soil texture (texture).	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Seventh	5	Learn about methods for measuring soil water and soil temperature	Soil water - soil temperature.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Eighth	5	Identify soil air	Soil air.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Ninth	5	Identify soil salinity	Soil salinity.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Tenth	5	Identifying soil fertility - soil fertilization	Soil fertility - soil fertilization.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Eleventh	5	Identifying organic matter in soil	Organic matter in the soil.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Twelfth	5	Identify the	Soil	The workshop	Written tests

		morphological signs of soil	morphological indicators.	lecture Laboratory summer training	Quarterly exams final exams Daily evaluation
Thirteenth	5	Identify the differentiation of its layers and the formation and development of the soil complex	Differentiation of its layers and formation and development of the soil complex.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fourteenth	5	Identify the types of soil color	Study of soil color.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fifteenth	5	Learn about the general classification of soil	General classification of soil.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation

35. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

36. Learning and Teaching Resources

Required textbooks (curricular books, if any)	General principles of soil
Main references (sources)	General principles of soil
Recommended books and references (scientific journals, reports...)	A collection of books in the field of general soil
Electronic References, Websites	Check out websites in this field

Course Description Form

37. Course Name: Plant Production

38. Course Code: First academic year / Autumn semester

39. Semester / Year: First academic year / Autumn semester

40. Description Preparation Date: 2024/2/14

41. Available Attendance Forms: Attend a lecture

42. Number of Credit Hours (Total) / Number of Units (Total): 5 hours / 5 units

43. Course administrator's name (mention all, if more than one name):

Name: mahmod othmaan

Email: mahmod.oth@atu.edu.iq

44. Course Objectives

Course Objectives

- The student will be able to know the importance of crops, gardening, and the production of various horticultural crops, including vegetables and fruits, as well as field crops, including grains, legumes, and oil and industrial crops.
- The student's knowledge of field applications in the cultivation of grain crops and horticultural crops.

45. Teaching and Learning Strategies

Strategy

- 1- Identify the types of field crops.
- 2- Identify soil service processes.
- 3- Identify methods of plant propagation.
- 4- Identify the basic rules in planning gardens and parks.

46. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
The First	5	Identifying the field crop and dividing field crops	field crop and dividing field crops	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Second	5	Identifying soil service/tillage operations - their importance - when they are performed - smoothing - leveling - amendment	soil service/tillage operations - their importance - when they are performed - smoothing - leveling - amendment	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Third	5	Learn about crop cultivation methods - patching and weeding - thinning - fertilization - irrigation - pest control	crop cultivation methods - patching and weeding - thinning - fertilization - irrigation - pest control	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Fourth	5	Identifying grain crops - wheat - barley	grain crops - wheat - barley	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fifth	5	Identifying grain crops - yellow corn - rice	grain crops - yellow corn - rice	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Sixth	5	Identifying oil crops - cotton - sunflower	oil crops - cotton - sunflower	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Seventh	5	Identifying leguminous crops - lucerne - clover	leguminous crops - lucerne - clover	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Eighth	5	Identifying leguminous crops - fava beans - lentils	leguminous crops - fava beans - lentils	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Ninth	5	Identify the impact of environmental and soil factors on the production of horticultural crops	impact of environmental and soil factors on the production of	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation

			horticultural crops		
The Tenth	5	Learn about the methods of propagating horticultural plants, including 1- Sexual reproduction 2- Asexual reproduction	the methods of propagating horticultural plants, including 1- Sexual reproduction 2- Asexual reproduction	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Eleventh	5	Identifying transplanting and producing seedlings - the benefits of transplanting - the effect of transplanting on plant growth	transplanting and producing seedlings - the benefits of transplanting - the effect of transplanting on plant growth	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Twelfth	5	Learn about establishing fruit orchards	establishing fruit orchards	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Thirteenth	5	Learn about raising and pruning fruit trees	raising and pruning fruit trees	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fourteenth	5	Identify citrus production	citrus production	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fifteenth	5	Learn about the basic rules in planning gardens and parks	the basic rules in planning gardens and parks	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation

47. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

48. Learning and Teaching Resources

Required textbooks (curricular books, if any)	General principles of Plant Production
Main references (sources)	General principles of Plant Production
Recommended books and references (scientific journals, reports...)	A collection of books in the field of Plant Production
Electronic References, Websites	Check out websites in this field

Course Description Form

49. Course Name: Animal production

50. Course Code: First academic year / Autumn semester

51. Semester / Year: First academic year / Autumn semester

52. Description Preparation Date: 2024/2/14

53. Available Attendance Forms: Attend a lecture

54. Number of Credit Hours (Total) / Number of Units (Total): 4 hours / 4 units

55. Course administrator's name (mention all, if more than one name):

Name: D.abdol hamzs

Email: _hamsa.ab@atu.edu.iq

56. Course Objectives

Course Objectives

- cows) as well Teaching students to raise farm animals (sheep and and proper nutrition, , management ,as poultry in terms of barns .the purpose of this study
- Introducing the student to the economic importance of farm .animals
- Introducing the student to the types of farm animals, types of .nd nutritionfields, breeding, a
- Training the student on field components, including tools, devices, and field operations and how to conduct them, as well .as introducing and training him on records

57. Teaching and Learning Strategies

Strategy	<p>1- Identify the economic importance of birds .</p> <p>2- Learn about poultry production processes .</p> <p>3- Learn about meat production methods .</p> <p>4- Identify the basic rules in hatching operations .</p>
-----------------	--

58. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
The First	4	the Identifying economic importance of raising poultry birds the poultry industry in - Iraq..	The economic importance of -raising poultry the poultry industry in Iraq ..	The workshop lecture Laboratory summer training	Written tests y examsQuarterl final exams Daily evaluation
The Second	4	the types of Identifying -poultry production -incubation -hatching poultry farming requirements.	Types of poultry -production -hatching -incubation poultry farming requirements.	The workshop electur Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Third	4	egg Identifying breeds of -production rearing -laying hens systems for laying hens factors affecting egg - production.	Egg production breeds of - -hens laying rearing systems -for laying hens factors affecting egg production.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Fourth	4	meat Identifying breeds of -production - broiler chickens requirements for raising -broiler chickens factors affecting the economic characteristics of broiler chickens.	Meat -production breeds of broiler chickens requirements - for raising -broilers factors affecting the economic characteristics of broilers.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fifth	4	hatching Identifying and hatching hatching -management hatching machine -.	Hatching and hatching -management -hatching hatching emachin.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Sixth	4	the factors that Identify	Factors that	The workshop	Written tests

		affect the quality of -hatching eggs specifications of eggs suitable for hatching.	affect the quality of q -hatching eggs specifications of eggs suitable for hatching.	lecture Laboratory summer training	Quarterly exams final exams Daily evaluation
Seventh	4	the Learn about economic importance of sheep.	The economic tance of impor sheep.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Eighth	4	the Learn about -classification of sheep international sheep breeds.	Sheep -classification international sheep breeds.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Ninth	4	Identifying reproduction, pregnancy and birth in sheep.	Reproduction, pregnancy and birth in sheep.	The workshop lecture Laboratory r trainingsumme	Written tests Quarterly exams final exams Daily evaluation
The Tenth	4	milk Learn about production and wool production in sheep.	Milk production and wool production in sheep.	The workshop lecture Laboratory summer training	Written tests erly examsQuart final exams Daily evaluation
Eleventh	4	goat breeds Identifying raising goats -.	-Goat breeds goat breeding.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Twelfth	4	he t Learn about economic importance of cows.	The economic importance of cows.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Thirteenth	4	the Learn about classification and types of cows.	Classification of cows and their types.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fourteenth	4	the foundations Identify of milk and meat production in cows.	Foundations of milk and meat production in cows.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fifteenth	4	cow field Learn about management.	Management of cow fields.	The workshop lecture Laboratory summer training	Written tests exams Quarterly final exams Daily evaluation

59. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

60. Learning and Teaching Resources

Required textbooks (curricular books, if any)	General principles of Plant Production
---	--

Main references (sources)	General principles of Plant Production
Recommended books and references (scientific journals, reports...)	A collection of books in the field of Plant Production
Electronic References, Websites	Check out websites in this field

- 2- Learn about the drawing processes in the program .
- 3- Learn about meat production methods .
- 4- Identify the basic rules in hatching operations .

70. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
The First	4	Getting to know the AutoCAD drawing the program -program -toolbars -interface through the two windows of the 2008 -AutoCAD 2000 choosing -program -angles units and -organizing the sheet -selecting the sheet -auxiliary commands precision tools in -grid -drawing jumping.	Getting to know the AutoCAD drawing the -program -program interface through -toolbars the two windows of -the AutoCAD 2000 -gram pro 2008 choosing units and organizing -angles selecting -the sheet auxiliary -the sheet -commands precision tools in -grid -drawing jumping.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Second	4	the Learn about methods of entering -coordinates modification operations on -the drawing printing -drawing scale and outputting drawings	Methods of entering -coordinates modification operationson the drawing -drawing d printing an -scale outputting drawings	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Third	4	Identifying the types of lines in engineering changing the -drawing -shapes of the lines their colors and adding texts -kness thic -to the drawing drawing different types dividing a -of lines setting up -straight line dividing -columns drawing -angles geometric shapes and dimensional-two(2D) drawing - precise drawing.	Types of lines in engineering drawing changing the - -shapes of the lines their colors and adding -thickness texts to the drawing drawing all types - dividing a -of lines setting -straight line -up columns -dividing angles drawing geometric -shapes and two dimensional(2D) drawing - e precis	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation

			drawing.		
The Fourth	4	Recognizing the division of the board and organizing the placement of projections for projecting geometric objects levels of projection using construction lines logical operations (-subtraction) -unification the three (-intersection) levels of projection.	Dividing the board and organizing the placement of projections for projecting geometric objects levels of projection using construction lines logical operations (-subtraction) -unification the (-intersection) three levels of projection.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fifth	4	Learn about dimensional placement using AutoCAD	Setting dimensions using AutoCAD	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Sixth	4	Learn how to draw solids (drawing and objects) projection methods Draw solids using polar coordinates Create drawings of three dimensional objects using the method (changing extrusion Thought).	How to draw objects drawing and) projection methods) drawing objects - using polar coordinates of creating drawings of dimensional -three objects using the method(-extrusion changingThought).	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Seventh	4	Identifying the reproduction of the third projection using two known projections to drawing the known -projections reproducing the third drawing the -projection model using the AutoCAD drawing style.	Reproducing the third projection using two known -projections drawing the known -projections reproducing the -rd projection thi drawing the model using the AutoCAD drawing style.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Eighth	4	Hatch _ recognition All kinds and shapes.	Hatch, in all its different types/forms and.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Ninth	4	Recognition Creating	and -Creating sectors	The	Written tests Wr

		an idea about -sectors the importance of parts that -sectors -cannot be cut choosing the best the -l cutting leveSlice command - the Section command	idea about the importance of parts that -sectors -cannot be cut choosing the best the -cutting level Slice command - the Section command	workshop lecture Laboratory summer training	Quarterly exams final exams Daily evaluation
The Tenth	4	Get to know comprehensive exercises for each student who has completed his studies in applying the AutoCAD program.	Comprehensive exercises for every student who has completed his es applying the studi AutoCAD program.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Eleventh	4	Getting to know the AutoCAD drawing the program -program -toolbars -interface through the two s of the window 2008 -AutoCAD 2000 choosing -program -units and angles -organizing the sheet -selecting the sheet -auxiliary commands precision tools in -grid -drawing jumping.	Getting to know the AutoCAD drawing the -program -program interface through -s toolbar the two windows of -the AutoCAD 2000 -program 2008 choosing units and organizing -angles selecting -the sheet auxiliary -the sheet -commands precision tools in -grid -drawing jumping.	The workshop lecture Laboratory summer training	itten testsWr Quarterly exams final exams Daily evaluation
Twelfth	4	Learn about the methods of entering -coordinates modification operations on -the drawing printing -drawing scale and outputting drawings.	Methods of entering -coordinates modification operationson the drawing -drawing printing and -scale outputting drawings .	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Thirteenth	4	Identifying the types of lines in engineering changing the - drawing -shapes of the lines their colors and adding texts -thickness -to the drawing drawing different types dividing a -of lines setting up -straight line dividing -columns drawing -angles	Types of lines in engineering drawing changing the - -shapes of the lines their colors and adding -thickness texts to the drawing drawing all types - dividing a -of lines setting -straight line -up columns -dividing angles	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation

		geometric shapes and dimensional-two(2D) drawing - precise drawing.	eometric drawing g -shapes and two dimensional(2D) drawing - precise drawing.		
Fourteenth	4	Recognizing the division of the board and organizing the of placement projections for projecting geometric the three -objects levels of projection using construction lines logical operations - (-subtraction) -unification the three -intersection) levels of projection.	Dividing the board and organizing the placement of projections for projecting geometric the three -objects levels of projection using construction logical -lines operations -(-subtraction) -unification the -intersection) three levels of projection.	The workshop lecture Laboratory summer training	en testsWritt Quarterly exams final exams Daily evaluation
Fifteenth	4	Recognition Setting dimensions using AutoCAD	Setting dimensions using AutoCAD	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation

71. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

72. Learning and Teaching Resources

Required textbooks (curricular books, if any)	General principles of engineering drawing
Main references (sources)	General principles of engineering drawing
Recommended books and references (scientific journals, reports...)	A collection of books in the field of engineering drawing
Electronic References, Websites	Check out websites in this field

Course Description Form

73. Course Name: Computer Applications (1)

74. Course Code: First academic year / Autumn semester

75. Semester / Year: First academic year / Autumn semester

76. Description Preparation Date: 2024/2/14

77. Available Attendance Forms: Attend a lecture

78. Number of Credit Hours (Total) / Number of Units (Total): 3 hours / 3 units

79. Course administrator's name (mention all, if more than one name):

Name: Zaid Jafar Hashem

Email: Zaid.Jaffar@atu.edu.iq

80. Course Objectives

Course Objectives

- Introducing the student to electronic computers, their importance, their operating system and parts, preparing him to deal with the calculator, and training him to do or participate in applied programs in the field of specialization.
- The student works on the calculator, enters data, and obtains the results.

81. Teaching and Learning Strategies

Strategy

- 1- Identify the parts of a calculator.
- 2- Learn about operating system commands.
- 3- Identify control panels for computers.
- 4- Getting to know the Paint program .

82. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
The First	3	Learn about the definition of calculator calculator generations - hardware and - software	Definition of -calculator calculator -generations hardware and software	The workshop lecture Laboratory summer training	Written tests Quarterly exams msfinal exa Daily evaluation
The Second	3	Learn about theMS-Dos operating system , the concept of the system, the system signal, disks, directories and their levels, files, internal and external .commands	MS-Dos operating system , system concept, system isks, signal, d directories and their levels, files, internal and external commands	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Third	3	Identify the operating system's internal and external commands.	Internal and external operating system commands.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Fourth	3	Getting to know the Windows operating system the concept of , ,the system, advantages basic requirements, operating the system, desktop components, the concept of icons , how to use the mouse , the importance and components of the Task Bar , the Start menu , and exiting the system. Dealing with desktop icons, dealing with the of the components My Computer icon in terms of disks, folders, and files, formatting disks, copying files and folders, taking advantage of Cut and Paste operations , dealing with the Recycle Bin how to , delete files and recover	Windows operating the concept , system of the system, advantages, basic requirements, operating the system, desktop components, the concept of icons , how to use the mouse the , importance and components of the Task Bar , the Start menu , exiting the system. Dealing ons, with desktop ic dealing with the components of the My Computer icon in terms of disks, folders, and files, formatting disks, copying files and folders, taking advantage of Cut	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation

		.them.	and Paste operations dealing with the , Recycle Bin how to , delete files and .emrecover th.		
Fifth	3	Panel programs , changing the desktop wallpaper, controlling the Screen Saver, adding and deleting programs to the start menuAdd and Remove Program.	Panel programs , change the desktop wallpaper, control the Screen Saver, add and remove programs to the start menuAdd and Remove Program.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams luationDaily eva
Sixth	3	Taking advantage of theRun command to execute programs directly.	Taking advantage of theRun command to execute programs directly.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams nDaily evaluatio
Seventh	3	Learn about using entertainment programs Window media player , taking advantage of additional programs Accessories and using , the calculator.	Use entertainment , programsWindow media player take , advantage of ,additional programs and he use t calculator.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Eighth	3	Learn how to use the Paint programto create, save, and retrieve drawings. Dealing with Office applications. pHow to get helHelp.	Working with the Paint drawing program to create, save and retrieve drawings. Dealing withOffice applications. How to get helpHelp.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Ninth	3	Learn about the concept of computer viruses, how they are infected, types of viruses, how to treat them and deal with them using anti-virus programs.	The concept of computer viruses, how they are infected, types of viruses, how to treat th them and deal wi them using anti-virus programs.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Tenth	3	Get to know comprehensive exercises for each student who has completed his studies in utoCAD applying the A program.	Comprehensive exercises for every student who has completed his studies applying the AutoCAD program.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Eleventh	3	he Getting to know t AutoCAD drawing	Getting to know the AutoCAD drawing	The workshop	Written tests Quarterly exams

		the program -program -toolbars -interface through the two windows of the 2008 -AutoCAD 2000 choosing -program -units and angles -organizing the sheet -selecting the sheet -auxiliary commands precision tools in -grid -drawing umpingj.	the -program -program interface through -toolbars the two windows of -the AutoCAD 2000 -program 2008 choosing units and organizing -angles selecting -the sheet auxiliary -the sheet -commands ools in precision t -grid -drawing jumping.	lecture Laboratory summer training	final exams Daily evaluation
Twelfth	3	Learn about the methods of entering -coordinates modification operations on -the drawing printing -le drawing sca and outputting drawings.	Methods of entering -coordinates modification operations on the drawing -drawing printing and -scale outputting drawings .	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Thirteenth	3	Identifying the types of lines in engineering changing the -drawing -shapes of the lines their colors and adding texts -thickness -to the drawing drawing different types dividing a -of lines setting up -straight line dividing -lumns co drawing -angles geometric shapes and dimensional-two(2D) drawing - precise drawing.	Types of lines in engineering drawing changing the - -shapes of the lines their colors and adding -thickness texts to the drawing drawing all types - dividing a -of lines setting -straight line -up columns -dividing angles drawing geometric -shapes and two dimensional(2D) drawing - precise drawing.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams ationDaily evalu
Fourteenth	3	Recognizing the division of the board and organizing the placement of projections for projecting geometric the three -objects levels of projection using construction lines logical operations - -subtraction) -unification	Dividing the board and organizing the placement of projections for projecting geometric the three -objects levels of projection using construction logical -lines operations -subtraction) -unification	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation

		the three - (intersection levels of projection.	the - (intersection three levels of projection.		
Fifteenth	3	Recognition Setting dimensions using AutoCAD	Setting dimensions using AutoCAD	The workshop lecture ratoryLabo summer training	Written tests Quarterly exams final exams Daily evaluation

83. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

84. Learning and Teaching Resources

Required textbooks (curricular books, if any)	General principles of computers
Main references (sources)	General principles of computers
Recommended books and references (scientific journals, reports...)	llection of books in the field of computersA co
Electronic References, Websites	Check out websites in this field

Course Description Form

85. Course Name: Human Rights

86. Course Code: First academic year / Autumn semester

87. Semester / Year: First academic year / Autumn semester

88. Description Preparation Date: 2024/2/14

89. Available Attendance Forms: Attend a lecture

90. Number of Credit Hours (Total) / Number of Units (Total): 2 hours / 2 units

91. Course administrator's name (mention all, if more than one name):

Name: mostffa hamza

Email: mos.ha@atu.edu.iq

92. Course Objectives

Course Objectives

- Identifying the most important rights of the citizen in the past, present, and future, and the most important laws that govern this.
- Learn about regional charters, constitutions, guarantees of respect and protection of human rights, and legitimate rules of law .

93. Teaching and Learning Strategies

Strategy

- 1- Learn about human rights .
- 2- Learn about human rights in Islamic law .
- 3- Learn about human rights in contemporary and modern history.
- 4- Learn about human rights in the Iraqi constitutions .

94. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
The First	2	Learn about human rights, their definition, and goals. Human rights in ancient civilizations, especially the Mesopotamian civilization.	Human rights, their definition, and goals. Human rights in ancient civilizations, especially the Mesopotamian civilization.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Second	2	Learn about human rights in divine laws, with a focus on human rights in Islam.	Human rights in divine laws, with a focus on human rights in Islam.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Third	2	Getting to know human rights in contemporary and modern history: international recognition of human rights since World War I and the League of Nations.	Human rights in contemporary and modern history: international recognition of human rights since World War I and the League of Nations.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Fourth	2	Getting to know regional recognition of human rights: the European Convention on Human Rights in 1950, American Convention on Human Rights in 1969, the African Charter on Human Rights in 1981, Human Rights in the Arab Charter in 1994.	Regional recognition of human rights: European Convention on Human Rights 1950, American Convention on Human Rights 1969, African Charter on Human Rights 1981, Arab Charter on Human Rights 1994.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fifth	2	-Identify non governmental organizations and human rights (International Committee of the Red Cross, Amnesty International, Human Rights Watch, national human rights organizations.	governmental -Non organizations and human rights (International Committee of the Red Cross, Amnesty International, Human Rights Watch, national human rights organizations.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Sixth	2	Identifying human rights in Iraqi	Human rights in Iraqi constitutions	The workshop	Written tests Quarterly exams

		constitutions between theory and reality.	between theory and reality.	lecture Laboratory summer training	final exams Daily evaluation
Seventh	2	Identifying the relationship between human rights and public freedoms: 1. In the Universal Declaration of Human Rights.	The relationship between human rights and public freedoms: 1. Universal Declaration of Human Rights.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Eighth	2	Learn about regional charters and national constitutions.	In regional charters and national constitutions.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Ninth	2	Learn about economic, social and cultural human rights and civil and political human rights.	Economic, social and cultural human rights and civil and political human rights.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Tenth	2	Learn about modern human rights: facts in development, the right to a clean environment, the right to solidarity, the right to religion.	Modern human rights: facts in development, the right to a clean environment, the right to solidarity, the right to religion.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Eleventh	2	Learn about the guarantees of respect and protection of human rights at the national level, the guarantees in the constitution and laws, and the guarantees in the principle of the rule of law. Guarantees in constitutional oversight, in freedom of the press and public opinion, and the role of non-governmental organizations in respecting and protecting human rights.	Guarantees of respect and protection of human rights at the national level, guarantees in the constitution and the laws, guarantees in the principle of the rule of law. Guarantees in constitutional oversight, in freedom of the press and public opinion, and the role of non-governmental organizations in respecting and protecting human rights.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation

Twelfth	2	Learn about guarantees of respect for human rights at the international level:	Guarantees of respect for human rights at the international level:	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Thirteenth	2	Learn about the role of the United Nations and its specialized agencies in providing guarantees	The role of the United Nations and its specialized agencies in providing guarantees	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fourteenth	2	Identifying the role of regional organizations the Arab League, the) the ,European Union African Union, the Organization of American States, the (ASEAN Organization	The role of regional organizations (the Arab League, the European Union, the African Union, the Organization of American States, the ASEAN (Organization.	The workshop turelec Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fifteenth	2	Recognition The role of -regional non governmental organizations and public opinion in respecting and protecting human rights	The role of regional governmental -non organizations and public opinion in respecting and human protecting rights.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation

95. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

96. Learning and Teaching Resources

Required textbooks (curricular books, if any)	General principles of human rights
Main references (sources)	General principles of human rights
Recommended books and references (scientific journals, reports...)	A collection of books in the field of human rights
Electronic References, Websites	Check out websites in this field

Course Description Form

97. Course Name: English language

98. Course Code: First academic year / Autumn semester

99. Semester / Year: First academic year / Autumn semester

100. Description Preparation Date: 2024/2/14

101. Available Attendance Forms: Attend a lecture

102. Number of Credit Hours (Total) / Number of Units (Total): 2 hours / 2 units

103. Course administrator's name (mention all, if more than one name):

Name: mohand mosa

Email: moh.m@atu.edu.iq

104. Course Objectives

Course Objectives

105. Teaching and Learning Strategies

Strategy

106. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
The First	2	A/ pronunciation: voiceless consonants B/ elements of sentence structure C/ patterns of sentences	Learn the parts of speech	Learn sentence structure	Daily exam Monthly exam Annual exam Annual evaluation
The Second	2	oiceless consonants B/ the part of speech: 1.nouns 2.verbs 3. Adjectives 4. Adverbs	Learn to classify verbs	Learn sentence structure	Daily exam Monthly exam Annual exam Annual evaluation
The Third	2	B/ the parts of	Learn to pronounce		Daily exam

		speech : 1.articles 2.Demonstratives 3.Pronouns 4.Prepositions 5.Conjunctions 6. Interjunctions	letters		Monthly exam Annual exam Annual evaluation
The Fourth	2	A/ pronunciation: voiced consonants B/ classification of verbs	Learn diphthongs	Learn sentence structure	Daily exam Monthly exam Annual exam Annual evaluation
Fifth	2	A/ pronunciation : B/pure vowels pronouns (I)	Learn additions	Learn sentence structure	Daily exam Monthly exam Annual exam Annual evaluation
Sixth	2	A/pronunciation :diphthongs B/pronounce (II)	Learn the tenses	Learn sentence structure	Daily exam Monthly exam Annual exam Annual evaluation
Seventh- Eighth	2	A/ the present simple tense B/the present C/continuous tense the present perfect tense	Present-futer	Learn sentence structure	Daily exam Monthly exam Annual exam Annual evaluation
Ninth- The Tenth	2	A/ the past simple tense B/ the past perfect tense C/ future	Past tense Simple future tense	Learn sentence structure	Daily exam Monthly exam Annual exam Annual evaluation
Eleventh- Twelfth	2	A/ active and passive voice B/ the number system in English	We know the terms and things	Learn sentence structure	Daily exam Monthly exam Annual exam Annual evaluation
Thirteenth Fourteenth Fifteenth		- Comprehensive paragraphs about the branches of civil engineering. 2- Interpretation of the above mentioned 3- paragraphs. Extracting the technical terms. 4- Making an independent sentences by using	We know the terms and things	Learn sentence structure	Daily exam Monthly exam Annual exam Annual evaluation

107. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily

preparation, daily oral, monthly, or written exams, reports etc

108. Learning and Teaching Resources

Required textbooks (curricular books, if any)	New Headway
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name: Arabic language	
2. Course Code: First academic year / Autumn semester	
3. Semester / Year: First academic year / Autumn semester	
4. Description Preparation Date: 2024/2/14	
5. Available Attendance Forms: Attend a lecture	
6. Number of Credit Hours (Total) / Number of Units (Total): 2 hours / 2 units	
7. Course administrator's name (mention all, if more than one name):	
Name: Hadeel Yas Abdul Hamza	Email: hadeel.alhmza.ims07@atu.edu.iq
8. Course Objectives	
Course Objectives	The student reviews the basic rules of the Arabic language that he has

previously studied in the previous stages, but in a long surah.

- Gradually introduce the student to the technical terminology related to the specialty

9. Teaching and Learning Strategies

Strategy	<ul style="list-style-type: none"> • Lectures • Show videos • Homework assignments • Conducting dialogues between students
-----------------	--

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
The First	2	Introduction to linguistic errors - the marfu' ta', the long ta', and the open ta'.	An introduction to linguistic errors	a lecture	For written tests Quarterly exams Final exams Annual evaluation
The Second	2	Rules for writing extended and short alifs - solar and lunar letters	grammar of the Arabic language	a lecture	For written tests Quarterly exams Final exams Annual evaluation
The Third	2	Arabic grammar	Dhaad and Dhaa	a lecture	For written tests Quarterly exams Final exams Annual evaluation
The Fourth	2	Arabic grammar	Writing hamza	a lecture	For written tests Quarterly exams Final exams Annual evaluation
Fifth	2	Arabic grammar	Punctuation mark	a lecture	For written tests Quarterly exams Final exams Annual evaluation
Sixth	2	Arabic grammar	The noun, the verb, and the difference between them	a lecture	For written tests Quarterly exams Final exams Annual evaluation
Seventh-Eighth	2	Arabic grammar	Effects	a lecture	For written tests Quarterly exams Final exams Annual evaluation
Ninth- The Tenth	2	Arabic grammar	number	a lecture	For written tests Quarterly exams Final exams Annual evaluation
Eleventh-Twelfth	2	Arabic grammar	Applications of common linguistic	a lecture	For written tests Quarterly exams

			errors		Final exams Annual evaluation
Thirteenth Fourteenth	2	Arabic grammar	Noun and Tanween - meanings of prepositions Formal aspects of administrative discourse	a lecture	For written tests Quarterly exams Final exams Annual evaluation
Fourteenth	2	Arabic grammar	The language of administrative discourse - models of administrative correspondence	a lecture	For written tests Quarterly exams Final exams Annual

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Clear dictation: Abdul Majeed Al Nuaimi Lessons in Arabic language and grammar for state employees. Ismail Mahmoud Arabic language for the third intermediate grade: Fatima Nazim Al-Atabi Inspired by Arabic literature: Haval Muhammm Amin
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

13. Course Name: Internal combustion engines	
14. Course Code: First academic year / Second semester	
15. Semester / Year: First academic year / Second semester	
16. Description Preparation Date: 2024/2/14	
17. Available Attendance Forms: Attend a lecture	
18. Number of Credit Hours (Total) / Number of Units (Total): 6hours / 6 units	
19. Course administrator's name (mention all, if more than one name):	
Name: Shaker Mahmoud Musa Email: inmshr@atu.edu.iq	
20. Course Objectives	
Course Objectives	<ul style="list-style-type: none"> • Introducing the student to internal combustion engines and their development - engine designs and manufacturing - learning about the performance and capabilities of engines and how to operate, use and maintain them. • Introducing the student to engines, their development, designs and classification - Training the student on mathematical calculations in engine performance, its parts, thermal cycles - Introducing the student to combustion in diesel and gasoline engines - turbo engines, the Wankel engine, and exhaust gas and pollution tests.
21. Teaching and Learning Strategies	
Strategy	<ol style="list-style-type: none"> 1- Learn about the development and design of engines. 2- Identify the thermal cycles of engines. 3- Learn about methods for calculating engine efficiency. 5- Identify the types of combustion in engines.

22. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
The First	6	the history Learn about of the development and design of engines and their classification.	A historical overview of the development and design of engines and their classification.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Second	6	the ideal and Identify real thermal cycles for stroke spark -four ignition (gasoline) engines.	Ideal and real thermal cycles stroke -for four spark ignition (gasoline) engines.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Third	6	the ideal and Identify real thermal cycles for stroke (diesel) -four compression ignition engines.	Ideal and real thermal cycles stroke -for four diesel)) compression ignition engines	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Fourth	6	the ideal and Identify real thermal cycles for ne and stroke gasoli-two diesel engines.	Ideal and real thermal cycles stroke -for two gasoline and diesel engines.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fifth	6	-the four Learn about stroke valve timing mechanism and compare it with the pressure curve-volume	Identify the stroke -four valve timing mechanism and compare it with -the volume pressure curve.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams tionDaily evalua
Sixth	6	the fixed and Identify moving parts of the internal combustion engine.	Fixed and moving parts of the internal combustion engine.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Seventh	6	measuring Learn about the performance parameters of internal -combustion engines -graphic power) -braking power (frictional power	Measuring the performance parameters of internal combustion -engines graphic power) braking power - frictional -	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation

			(werpo		
Eighth	6	Identify the swept volume and clearance compression -volume engine capacity -ratio .	Identify the swept volume and clearance - volume compression engine -ratio capacity.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Ninth	6	the types of Identify efficiencies mechanical, thermal,) volumetric), work done in the cylinder, and specific fuel consumption.	Types of efficiencies mechanical,) thermal, volumetric), work done in the cylinder, specific fuel consumption.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Tenth	6	friction and Identifying lubrication in the mechanical -engine -friction in the elbow mechanical friction of the effect of -the piston the number of rings.	Friction and lubrication in -the engine mechanical friction in the -elbow mechanical friction of the fric the -piston effect of the number of rings .	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Eleventh	6	combustion Identifying combustion in diesel - combustion in -engines -ngines gasoline e stages of combustion.	-Combustion combustion in -diesel engines combustion in gasoline stages -engines of combustion.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Twelfth	6	the ntifyingIde -combustion chamber basic requirements for a good combustion principles of -chamber combustion chamber types of -design combustion chambers.	Combustion basic -chamber requirements for a good combustion -chamber principles of combustion hamber design c types of - combustion chambers.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Thirteenth	6	fuel -fuel Identifying for spark ignition octane -engines	fuel for -Fuel spark ignition octane -engines	The workshop lecture Laboratory	Written tests Quarterly exams final exams

		-number of gasoline cetane -fuel diesel number in diesel fuel.	number of diesel -gasoline cetane -fuel number in diesel fuel.	summer training	onDaily evaluati
Fourteenth	6	rotary Identifying engines, the working the air -principle circulation in the turbine as a result of combustion when the -pressure is constant the use of turbine engines.	Rotary engines, working air -principle circulation in e as a the turbin result of combustion when the pressure is use of -constant turbine engines	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fifteenth	6	exhaust Learn about gas pollution -gas tests aust gas exh - compounds for spark -ignition engines exhaust gas compounds -for diesel engines controlling the reduction of types of exhaust pollution to improve the environment.	Exhaust gas Gas -tests -pollution Exhaust gas compounds for spark ignition -ines eng Exhaust gas compounds for -diesel engines Controlling the reduction of types of exhaust pollution to improve the environment.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation

23. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

24. Learning and Teaching Resources

Required textbooks (curricular books, if any)	eral principles of enginesGen
Main references (sources)	General principles of engines
Recommended books and references (scientific journals, reports...)	A collection of books in the field of combustion engines
Electronic References, Websites	ites in this fieldCheck out webs

Course Description Form

25. Course Name: Workshop

26. Course Code: First academic year / Second semester

27. Semester / Year: First academic year / Second semester

28. Description Preparation Date: 2024/2/14

29. Available Attendance Forms: Attend a lecture

30. Number of Credit Hours (Total) / Number of Units (Total): 4 hours / 4 units

31. Course administrator's name (mention all, if more than one name):

Name: Dr. Riyadh A. Sarhan

Email: Riyadh.Sarhan@atu.edu.iq

32. Course Objectives

Course Objectives

- The student will be able to perform lathe and filing operations.
- The student will be able to identify the types and physical properties of metals and the methods of filing and turning in the field of agricultural machinery and machinery repair.

33. Teaching and Learning Strategies

Strategy

- 1- Learn about public safety in workshops.
- 2- Learn about different measurement tools.
- 3- Identify the types of files.
- 4- Learn about lathe operations.

34. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
The First	4	general Learn about -safety in workshops metal forming definition -processes measuring -of filings .tools	lic safety in Pub metal -workshops -forming operations -definition of filings .measuring tools	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Second	4	accurate Identifying measuring tools, ssification of cla minerals, mechanical .and physical properties	Precision measuring -instruments classification of mechanical -minerals .and physical properties	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams evaluation Daily
The Third	4	the types of Identifying how -their parts -files an -to use them exercise on how to .prepare the surface	their -Types of files -method of use -parts an exercise on how to .prepare the surface	The workshop lecture Laboratory mmer su training	Written tests Quarterly exams final exams Daily evaluation
The Fourth	4	the Getting to know processes of marking using the -and shankar -marking needle shankar and how to cutting -plan the train an exercise in -tools .planning and cutting	Marking and shankar using the -operations -marking needle shankar and how to cutting -plan the train an exercise in -tools .planning and cutting	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams nDaily evaluatio
Fifth	4	filing Familiarity with training on -exercises various filing operations with planning, marking, cutting, straightening faces, and making .compositions	-Training on filing training on different filing operations with planning, marking, straightening ,cutting faces, and making .compositions	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Sixth	4	the types of Identifying how to make an -teeth external and internal .exercise -tooth	How to -s of teeth Type make an external and -internal tooth .Exercise	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Seventh	4	a Getting to know comprehensive training the -exercise a student to do comprehensive exercise on all filing	Comprehensive training the -exercise student to do a comprehensive exercise .on all filing operations	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams tionDaily evalua

		.operations			
Eighth	4	the types of Identifying lathes according to the type of work and the measurements of the how to operate -lathes and maintain them and perform them on the .lathes	Types of lathes according to the type of work and measurements of lathes w to operate and ho - maintain them and .perform them on lathes	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Ninth	4	the types of Identifying the -turning pens angles of the turning s the force -pen -affecting the pens how to sharpen the .pen	Types of engraving angles of the -pens forces -engraving pen how -affecting the pens .to sharpen the pen	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams ationDaily evalu
The Tenth	4	how to install Learn the lathe pen on the the Learn about .axis lathe and install the workpiece on the lathe axis and how to ensure this. Training on longitudinal and .vertical feeding	How to install the turning pen on the lathe fix the axis and workpiece on the lathe axis and how to ensure training on -this longitudinal and .vertical feeding	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Eleventh	4	Recognizing ning longitudinal tur and making steps of -different diameters .exercise	Longitudinal lathe and making terraces of -different diameters .exercise	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Twelfth	4	internal fyingIdenti how to -turning perform the cutting process on the lathe using cutting pens and -how to make the bore .an exercise	how -Internal turning to perform the cutting process on the lathe using cutting pens and -how to make the bore .an exercise	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Thirteenth	4	tooth Identifying types of -production tooth tables on -teeth .exercise -the lathe	-Tooth production tooth -types of teeth -s on the lathe table .exercise	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fourteenth	4	a Learn about comprehensive exercise for lathe .operations	Comprehensive training .for lathe operations	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation

Fifteenth	4	the Identifying continuation of the -previous exercise .discussing reports	Continuation of the -previous exercise .discussion of reports	he T workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
-----------	---	--	---	--	--

35. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

36. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	Check out websites in this field

Course Description Form

37. Course Name: Soil preparation equipment

38. Course Code: First academic year / Second semester

39. Semester / Year: First academic year / Second semester

40. Description Preparation Date: 2024/2/14

41. Available Attendance Forms: Attend a lecture

42. Number of Credit Hours (Total) / Number of Units (Total): 5 hours / 5 units

43. Course administrator's name (mention all, if more than one name):

Name: Abass F. Abd

Email: Abbas.fadhil1983.ism@atu.edu.iq

44. Course Objectives

Course Objectives	<ul style="list-style-type: none"> • Introducing students to the machines and equipment used to prepare soil for agriculture and how to operate them. • The student should be able to use all types of plows and soil preparation machines, handle the machine and the tractor, choose them according to the type of soil, detect faults, and how to maintain them
--------------------------	--

45. Teaching and Learning Strategies

Strategy	<ol style="list-style-type: none"> 1- Identify the types of systems in the agricultural tractor. 2- Identify the engine parts in the agricultural tug. 3- Identify the means of transferring power in the agricultural tug. 4- Identify the types of maintenance used.
-----------------	--

46. Course Structure

Week	Hours	Required Learning	Unit or subject	Learning	Evaluation
------	-------	-------------------	-----------------	----------	------------

		Outcomes	name	method	method
The First	5	the Learn about the -introduction -importance of tillage the characteristics of the -good tillage positive and negative the -effects of tillage mechanical on of the soilcompositi	-Introduction The importance -of tillage Characteristics -of good tillage Positive and negative effects -of tillage Mechanical composition of the soil	The workshop lecture Laboratory summer training	Written tests Quarterly exams amsfinal ex Daily evaluation
The Second	5	primary Identifying -tillage equipment bottom -types of plows areas -its types -plow the reason for -of use preferring the bottom plow	Primary tillage -equipment -types of plows -bottom plow areas of -types reason for - use preferring the bottom plow	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Third	5	Calculate Learn about the force acting on the bottom plow	Calculate the force acting on m plowthe botto	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Fourth	5	the Getting to know -its types -disc plow the -the main parts reason for preferring how to -the disc plow .turn the soil	its -c plow Dis main -types the -parts reason for preferring the how -disc plow .to turn the soil	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fifth	5	the vertical Identifying ain its m -disc plow -its types -parts comparison between the disc plow and the vertical disc plow	Vertical disc main -plow -types -parts comparison between disc plow and vertical disc plow	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Sixth	5	the Getting to know the main -chisel plow -its types -parts advantages and the -disadvantages reason for preferring types -the chisel plow types of -of beams .weapons	-Chisel plow -main parts -types and advantages -disadvantages the reason for preferring the -chisel plow -types of beams types of .weapons	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation

Seventh	5	the transfer how to transfer rotary movement from the PTO types –its types – benefit –of weapons	How to -Rotary transfer movement from the PTO Its - Types of -types -weapons Benefit	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams aluationDaily ev
Eighth	5	its -subsoil Identifying areas of -importance -main parts -use calculating the force .acting on it	its -Subsoil -importance -areas of use -main parts calculation of the force acting .on it	The workshop lecture Laboratory rainingsummer t	Written tests Quarterly exams final exams Daily evaluation
Ninth	5	secondary Identifying its -tillage equipment -areas of use -types general objective	Secondary tillage -equipment areas of -types general -use objective	The workshop lecture aboratoryL summer training	Written tests Quarterly exams final exams Daily evaluation
The Tenth	5	-combs Identifying areas of -their types factors affecting -use .comb penetration	their -Combs areas of -types factors -use affecting penetration of .bscom	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Eleventh	5	the disc Identifying areas -its type -comb the toothed -of use advantages and -comb -disadvantages connection and .calibration	-isc comb D areas of -type toothed -use -comb advantages and -disadvantages connection and .calibration	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Twelfth	5	leveling Identifying - -their types - devices leveling -areas of use -types -devices connection and -calibration .maintenance	Leveling their -devices areas - -types leveling -of use their -devices -types connection and -calibration .maintenance	The workshop lecture oryLaborat summer training	Written tests Quarterly exams final exams Daily evaluation
Thirteenth	5	-rollers Identifying areas of use -their type -their parts -trenches - connection and calibration	their -Rolls areas of -type -trenches -use - their parts connection and calibration	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fourteenth	5	installed Identifying -its type -equipment	Installed -equipment	The workshop lecture	Written tests Quarterly exams

		-its use -its importance its benefit	-pe ty -importance benefit -use	Laboratory summer training	final exams Daily evaluation
Fifteenth	5	the Learn about maintenance and repair of agricultural the -machinery importance of gestora -maintenance	Maintenance and repair of agricultural the -machinery importance of -maintenance storage	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation

47. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

48. Learning and Teaching Resources

Required textbooks (curricular books, if any)	mentGeneral principles of soil preparation equip
Main references (sources)	General principles of soil preparation equipment
Recommended books and references (scientific journals, reports...)	A collection of books in the field of soil preparati equipment
Electronic References, Websites	websites in this field Check out

Course Description Form

49. Course Name: Mathematics

50. Course Code: First academic year / Second semester

51. Semester / Year: First academic year / Second semester

52. Description Preparation Date: 2024/2/14

53. Available Attendance Forms: Attend a lecture

54. Number of Credit Hours (Total) / Number of Units (Total): 3 hours / 3 units

55. Course administrator's name (mention all, if more than one name):

Name: Intisar M. Khudair

Email: Intisar.mohammed@atu.edu.iq

56. Course Objectives

Course Objectives

- Introducing the student to the types of mathematical equations and the concepts of differentiation and integration and their applications.
- The student will be able to solve all types of mathematical problems, apply functions and determinants, and find distance, speed, and acceleration through general physical and engineering applications

57. Teaching and Learning Strategies

Strategy

- 1- Identify the types of equations and their degrees .
- 2- Identify functions and their derivatives .
- 3- Identify the types of trigonometric functions .
- 4- Learn about applications of calculus .

58. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
The First	3	a brief overview of mathematics and its types of equations and their algebraic -degrees -coefficients -terms .exponents	A brief overview of mathematics and its types of equations and their algebraic -degrees -coefficients -terms .exponents	lecture	Written tests Quarterly exams final exams Daily evaluation
The Second	3	-differentiation Identify derivatives, -its concept polynomial functions .and their derivatives	its - Differentiation -concept derivatives, polynomial functions and their .derivatives	lecture	Written tests Quarterly exams final exams Daily evaluation
The Third	3	Learn about applications of the .above	Applications of the .above	lecture	Written tests Quarterly exams final exams Daily evaluation
The Fourth	3	Identifying trigonometric functions -a brief overview - -their derivatives -implicit functions .their derivatives	Trigonometric a brief -functions their -overview implicit -derivatives their -functions .vativesderi	lecture	Written tests Quarterly exams final exams Daily evaluation
Fifth	3	Learn about applications about .functions	Applications about .functions	lecture	Written tests Quarterly exams final exams Daily evaluation
Sixth	3	f applications o Identify -differentiation maximum and -minimum values drawing ordinary functions and determining inflection .points	Applications of -differentiation maximum and -minimum values drawing ordinary functions and determining inflection .points	lecture	sWritten test Quarterly exams final exams Daily evaluation
Seventh	3	finding Learn about distance, speed, and general -acceleration physical and engineering .applications	Finding distance, speed, and -acceleration general physics and engineering .applications	relectu	Written tests Quarterly exams final exams Daily evaluation
Eighth	3	-integration Identifying laws and -its concept their relationship to definite -differentiation	its -Integration laws and -concept their relationship to -differentiation	lecture	Written tests Quarterly exams final exams Daily evaluation

		and indefinite .integration	definite and indefinite .integration		
Ninth	3	integration Learn about .applications	Applications about .integration	lecture	Written tests Quarterly exams final exams Daily evaluation
The Tenth	3	finding the area under curves and the -under the curve approximate area using the trapezoid and .Simpson	Finding the area under the curves and the -under the curve approximate area using the trapezoid .and Simpson	ecturel	Written tests Quarterly exams final exams Daily evaluation
Eleventh	3	finding the -arc length of a curve .various applications	Finding the arc -length of a curve .various applications	lecture	Written tests Quarterly exams final exams Daily evaluation
Twelfth	3	determinants, Identify their properties, and various applications on .the topic	their -Determinants various -properties applications on the .topic	lecture	Written tests Quarterly exams final exams Daily evaluation
Thirteenth	3	the Learn about complement of applications around .determinants	Complementary applications about .determinants	lecture	Written tests Quarterly exams final exams Daily evaluation
Fourteenth	3	the center Identifying of gravity of the wipers of inertia the moment - .of the wipers	The center of gravity the -of the wipers moment of inertia of .the wipers	lecture	Written tests Quarterly exams final exams Daily evaluation
Fifteenth	3	Learn about applications about the center of gravity of of spaces and moments .inertia	Applications about the center of gravity of areas and moment .of inertia	lecture	Written tests Quarterly exams final exams Daily evaluation

59. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

60. Learning and Teaching Resources

Required textbooks (curricular books, if any)	General principles of mathematics
Main references (sources)	sGeneral principles of mathematic
Recommended books and references (scientific journals, reports...)	A collection of books in the field of mathematics
Electronic References, Websites	Check out websites in this field

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
The First	5	the wGetting to know definition of surveying its uses -its divisions - topographical - -settlement -surveying some important definitions in .settlement	Definition of its -surveying uses -divisions topographical - -surveying -settlement some important n definitions i .settlement	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Second	5	measuring Learn about horizontal and inclined setting up -distances and dropping poles on and off the track using a tape	Measuring horizontal and inclined -distances erecting and dropping columns from and on the path of the travel line using a tape	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Third	5	the types of fyingIdenti the -leveling devices -tools used in leveling the hairline method of -measuring distances selecting and checking .the machine	Types of leveling devices tools used in - the -leveling hairline method for measuring -distances and selecting checking the .machine	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Fourth	5	the Learn about methods of calculating how to heighten -levels .the device	Methods for calculating method - levels of device .height	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fifth	5	IdentifyingGPS using them -receivers to determine locations, direct lines, and measure horizontal and .istancesvertical d	GPS -receivers used to determine locations, direct lines, and measure horizontal and vertical .distances	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Sixth	5	the types Recognizing scale drawing -maps of longitudinal drawing -	Types of maps: scale drawing, longitudinal	The workshop lecture Laboratory	Written tests Quarterly exams final exams

		network -scale .drawing	drawing scale, and network .drawing	summer training	Daily evaluation
Seventh	5	the Getting to know its -contour map -its uses -properties the contour interval and the factors that .determine its selection	-Contour map -its properties the -its uses contour period and the factors that determine .its selection	hop The works lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Eighth	5	drawing a Learn about contour map using the .mathematical method	Drawing a contour map using the mathematical .method	The workshop lecture yLaborator summer training	Written tests Quarterly exams final exams Daily evaluation
Ninth	5	ways to Learn about enlarge and reduce .maps and render them	Methods of enlarging and reducing maps and rendering .them	The workshop lecture Laboratory summer training	ritten testsW Quarterly exams final exams Daily evaluation
The Tenth	5	longitudinal Identify sections, their uses and .drawing	Longitudinal sections, their uses and .drawing	The workshop lecture Laboratory summer training	Written tests Quarterly exams al examsf Daily evaluation
Eleventh	5	the Learn about approximate method for calculating the -longitudinal cross sectional area of cuts .and backfills	The approximate method for calculating the longitudinal sectional -cross area of cuts and .backfills	rkshop The wo lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Twelfth	5	cross sections, Identify their uses and drawing .them	Cross sections, their uses and .drawing	The workshop lecture Laboratory summer training	ritten testsW Quarterly exams final exams Daily evaluation
Thirteenth	5	the Learn about arithmetic and demarcation method for calculating the area of .cross sections	Arithmetic and demarcation method for calculating the area of cross .sections	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fourteenth	5	calculating Learn about sectional area -the cross of irrigation channels .and trowels	Calculating the sectional -cross area of irrigation nd channels a .trowels	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fifteenth	5	the Getting to know its -theodolite device its uses in -types	Theodolite its -device its uses -es typ	The workshop lecture Laboratory	Written tests Quarterly exams final exams

		measuring angles and .directions	in measuring angles and .directions	summer training	Daily evaluation
--	--	----------------------------------	-------------------------------------	-----------------	------------------

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	General principles of flat space
Main references (sources)	paceGeneral principles of flat s
Recommended books and references (scientific journals, reports...)	A collection of books in the field of flat space
Electronic References, Websites	Check out websites in this field

Course Description Form

61. Course Name: Industrial drawing

62. Course Code: First academic year / Second semester

63. Semester / Year: First academic year / Second semester

64. Description Preparation Date: 2024/2/14

65. Available Attendance Forms: Attend a lecture

66. Number of Credit Hours (Total) / Number of Units (Total): 4 hours / 4 units

67. Course administrator's name (mention all, if more than one name):

Name: Dr.. Riyad Ahmed Sarhan

Email: [Sarhan.Riyadh@atu.edu.iq](mailto: Sarhan.Riyadh@atu.edu.iq)

68. Course Objectives

Course Objectives

- Training the student to draw and read drawings of machines.
- Training the student on ways to connect mechanical parts.
- Training the student to represent mechanical parts by drawing.
- Training the student to install mechanical models on the drawing board.

69. Teaching and Learning Strategies

Strategy

- 1- Identify the connection of mechanical parts .
- 2- Identify the types of khawabir .
- 3- Identify the types of gears .
- 4- Identify the types of friction clutches .

70. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
The First	4	the Learn about methods of connecting -mechanical parts -their types -screws .types of nuts	Methods of connecting -mechanical parts -their types -screws .types of nu	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Second	4	the power Identifying the moving -spiral drawing a -spiral .picture	-Power screw -moving screw .drawing a picture	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Third	4	their -rivets Identifying their -specifications .drawing a picture -use	their -Rivets their -specifications drawing a -use .picture	The p worksho lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Fourth	4	-khawabirs Identifying drawing a -their types .picture	their -Khawabir drawing a -types .picture	The workshop lecture Laboratory summer ngtraini	Written tests Quarterly exams final exams Daily evaluation
Fifth	4	-sealants Identifying drawing a -their types .picture	their types -Sealants .drawing a drawing -	The workshop lecture Laboratory summer training	Written tests Quarterly exams xamsfinal e Daily evaluation
Sixth	4	belt -belts Identifying drawing a -pulleys .picture	-Conveyor belts conveyor belt pulley .drawing a picture -	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Seventh	4	straight Identifying -worm gears -gears .drawing a picture	-Straight gears -worm gears .drawing a picture	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Eighth	4	bevel gears Identifying .drawing a picture -	-Bevel gears .drawing a picture	The workshop lecture Laboratory	Written tests Quarterly exams final exams Daily evaluation

				summer training	
Ninth	4	drawing an assembly plate for a .edit -bevel gear box Learn about	Drawing an y plate for a assembl -bevel gear box .edit	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Tenth	4	-the clutch Identifying drawing a -its types .picture	-its types -Clutch .drawing a picture	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Eleventh	4	-rollers Identifying drawing a -their types .picture	their types -Rollers .drawing a picture -	The workshop lecture Laboratory summer iningtra	Written tests Quarterly exams final exams Daily evaluation
Twelfth	4	the pilot Identifying -the flap axis -wheel .drawing a picture	flap -Pilot wheel drawing a -axle .picture	The workshop lecture Laboratory summer training	Written tests ly examsQuarter final exams Daily evaluation
Thirteenth	4	assembling Learn about -solid connections .drawing a picture	Assembling solid -connections .drawing a picture	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams ily evaluationDa
Fourteenth	4	assembling Learn about -a flexible joint .drawing a picture	Assembling a -flexible joint .drawing a plate	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fifteenth	4	the drawing Recognize of the pivot chair segmentation assembly .panel	Drawing a pivot chair retail assembly .panel	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation

71. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

72. Learning and Teaching Resources

Required textbooks (curricular books, if any)	industrial drawing General principles of
Main references (sources)	General principles of industrial drawing
Recommended books and references (scientific journals, reports...)	A collection of books in the field of industrial drawing
Electronic References, Websites	ebsites in this fieldCheck out w

Course Description Form

73. Course Name: Computer Applications (1)

74. Course Code: First academic year / Autumn semester

75. Semester / Year: First academic year / Autumn semester

76. Description Preparation Date: 2024/2/14

77. Available Attendance Forms: Attend a lecture

78. Number of Credit Hours (Total) / Number of Units (Total): 3 hours / 3 units

79. Course administrator's name (mention all, if more than one name):

Name: Zaid Jafar Hashem

Email: Zaid.Jaffar@atu.edu.iq

80. Course Objectives

Course Objectives

- Introducing the student to electronic computers, their importance, their operating system and parts, preparing him to deal with the calculator, and training him to do or participate in applied programs in the field of specialization.
- The student works on the calculator, enters data, and obtains the results.

81. Teaching and Learning Strategies

Strategy

- 5- Identify the parts of a calculator.
- 6- Learn about operating system commands.
- 7- Identify control panels for computers.
- 8- Getting to know the Paint program .

82. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
The First	3	the Learn about definition of calculator calculator generations - hardware and - software	Definition of -calculator calculator -generations hardware and software	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams onDaily evaluati
The Second	3	Learn about theMS-Dos operating system , the concept of the system, the system signal, disks, directories and their levels, files, internal and external .commands	MS-Dos operating system , system concept, system signal, disks, and their directories levels, files, internal and external commands	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Third	3	Identify the operating system's internal and external commands.	ternal Internal and ex operating system commands.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Fourth	3	Getting to know the Windows operating system the concept of , the system, advantages, nts, basic requireme operating the system, desktop components, the concept of icons , how to use the mouse , the importance and components of the Task Bar , the Start menu , and exiting the system. Dealing with desktop icons, dealing with the components of the My Computer icon in terms of disks, folders, and files, formatting disks, copying files and folders, taking advantage of Cut and Paste operations , dealing with the Recycle Bin how to , delete files and recover	Windows operating system , the concept e system, of th advantages, basic requirements, operating the system, desktop components, the concept of icons , how to use the mouse the , importance and components of the Task Bar , the Start menu , exiting the system. Dealing with desktop icons, the dealing with components of the My Computer icon in terms of disks, folders, and files, formatting disks, copying files and folders, taking advantage of Cut	The p worksho lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation

		.them.	and Paste operations dealing with the , Recycle Bin how to , delete files and .recover them.		
Fifth	3	Panel programs , changing the desktop wallpaper, controlling the Screen Saver, adding and deleting programs to the start menuAdd and Remove Program.	Panel programs , change the desktop wallpaper, control the Screen Saver, add and remove programs to the start menuAdd and Remove Program.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Sixth	3	Taking advantage of theRun command to execute programs directly.	Taking advantage of theRun command to execute programs directly.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Seventh	3	n about using Lear entertainment programs Window media player , taking advantage of additional programs Accessories and using , the calculator.	Use entertainment , programsWindow media player take , advantage of ,additional programs and use the calculator.	he T workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Eighth	3	Learn how to use the Paint programto create, save, and retrieve drawings. Dealing with Office applications. How to get helpHelp.	ith theWorking w Paint drawing program to create, save and retrieve drawings. Dealing withOffice applications. How to get helpHelp.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Ninth	3	concept Learn about the of computer viruses, how they are infected, types of viruses, how to treat them and deal with them using anti-virus programs.	The concept of computer viruses, how they are infected, types of viruses, how to treat them and deal with ithem using ant-virus programs.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Tenth	3	Get to know comprehensive exercises for each student who has completed his studies in applying the AutoCAD program.	Comprehensive exercises for every student who has completed his studies applying the AutoCAD program.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Eleventh	3	Getting to know the g AutoCAD drawin	to know the Getting AutoCAD drawing	The workshop	Written tests Quarterly exams

		the program -program -toolbars -interface through the two windows of the 2008 -AutoCAD 2000 choosing -program -units and angles -organizing the sheet -selecting the sheet -auxiliary commands precision tools in -grid -drawing jumping.	the -program -program interface through -toolbars the two windows of -the AutoCAD 2000 -program 2008 choosing units and organizing -angles selecting -the sheet auxiliary -the sheet -commands precision tools in -grid - drawing jumping.	lecture Laboratory summer training	final exams Daily evaluation
Twelfth	3	Learn about the methods of entering -coordinates modification operations on -the drawing printing -drawing scale outputting and drawings.	Methods of entering -coordinates modification operations on the drawing -drawing printing and -scale outputting drawings .	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Thirteenth	3	Identifying the types of lines in engineering changing the -drawing -shapes of the lines their colors and adding texts -thickness -to the drawing drawing different types dividing a -of lines setting up -straight line dividing -columns drawing -angles geometric shapes and dimensional-two(2D) drawing - precise drawing.	Types of lines in engineering drawing changing the - -shapes of the lines their colors and adding -thickness texts to the drawing drawing all types - ng a dividi -of lines setting -straight line -up columns -dividing angles drawing geometric -shapes and two dimensional(2D) drawing - precise drawing.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fourteenth	3	Recognizing the division of the board and organizing the placement of projections for projecting geometric the three -objects levels of projection using construction lines logical operations - -subtraction) -unification	Dividing the board and organizing the placement of projections for projecting geometric the three -objects levels of projection using construction logical -lines operations -subtraction) -unification	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation

		the three -intersection) ls of projectionleve.	the -intersection) of three levels projection.		
Fifteenth	3	Recognition Setting dimensions using AutoCAD	Setting dimensions using AutoCAD	The workshop lecture Laboratory summer iningtra	Written tests Quarterly exams final exams Daily evaluation

83. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

84. Learning and Teaching Resources

Required textbooks (curricular books, if any)	General principles of computers
Main references (sources)	General principles of computers
Recommended books and references (scientific journals, reports...)	in the field of computers A collection of books
Electronic References, Websites	Check out websites in this field

Course Description Form

85. Course Name: Tractors Maintenance					
86. Course Code: Second academic year / Autumn semester					
87. Semester / Year: Second academic year / Autumn semester					
88. Description Preparation Date: 2024/2/14					
89. Available Attendance Forms: Attend a lecture					
90. Number of Credit Hours (Total) / Number of Units (Total): 4 hours / 4 units					
91. Course administrator's name (mention all, if more than one name):					
Name: Abass F. Abd		Email: Abbas.fadhil1983.ism@atu.edu.iq			
92. Course Objectives					
Course Objectives	<ul style="list-style-type: none"> • Definition of maintenance and maintenance, how to know how to read maintenance and maintenance books, how to perform maintenance according to the specified times and dates. 				
93. Teaching and Learning Strategies					
Strategy	<ul style="list-style-type: none"> • The student will be able to perform maintenance as an integrate program • forms maintenance according to its schedule and The student pe Requirements adheres to safety rules while working, with saving to conduct it 				
94. Course Structure					
Week	Hours	Required Learning	Unit or subject	Learning	Evaluation

		Outcomes	name	method	method
The First	4	the gnizingReco importance of maintenance and defining -maintenance identifying -it maintenance workshops And repair	The importance of maintenance and -maintenance -its definition identifying maintenance And workshops .repair	The workshop lecture yLaborator summer training	Written tests Quarterly exams final exams Daily evaluation
The Second	4	Recognition Maintenance application after (50) How to -working hours charge and maintain the .battery	Maintenance application after working (50) How to -hours harge and c maintain the .battery	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Third	4	The Recognition procedure for connecting the gasket how -to the generator - to tighten it correctly loan it and how to .replace it	The procedure for connecting the gasket to the how -generator to tighten it loan -correctly it and how to .replace it	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams nDaily evaluatio
The Fourth	4	Knowing Recognition the properties of treating -hydraulic oil leaching and knowing its causes. System .maintenance	Knowing the properties of -hydraulic oil treating leaching and knowing its causes. System .maintenance	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fifth	4	Recognition Maintenance after -hours of work (100) this maintenance is performed by the performing -students .the oil change	Maintenance after (100) -work hours of this maintenance is performed by -the students performing the .oil change	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Sixth	4	Learn about up -maintenance follow -hours of work (100) eps for changing the st -engine oil and filter maintenance of the fuel .system	Maintenance up (100) -follow -working hours steps for changing the engine oil and -filter	The workshop lecture Laboratory summer training	tests Written Quarterly exams final exams Daily evaluation

			maintenance of .the fuel system		
Seventh	4	Recognition Performing the process of expelling air from -the fuel system the -maintaining tires effect of air pressure on .tires	Performing the process of expelling air from the fuel - system maintaining the effect -tires of air pressure .on tires	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Eighth	4	Recognition Maintenance after (250) the -hours of work importance of this enance and its maint the -components procedure for .calibrating valves	Maintenance after (250) -hours of work the importance of this maintenance and its -components the procedure for calibrating .valves	The workshop lecture Laboratory summer training	tests Written Quarterly exams final exams Daily evaluation
Ninth	4	Recognition up -Maintenance follow after (250) working maintaining the -hours feed pump, calibrating it, and replacing the extruders	Maintenance up after -follow working (250) -hours he maintaining t feed pump, calibrating it, and replacing the extruders	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Tenth	4	Learn about following up on the maintenance -of other parts tor performing separa calibration and brake .calibration	Following up on the maintenance of -other parts performing separator calibration and brake .calibration	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Eleventh	4	Learn about after (500) maintenance -hours of work maintaining and replacing fuel filters in .diesel engines	Maintenance after (500) -working hours maintenance and replacement of fuel filters in .diesel engines	The workshop lecture Laboratory mer trainingsum	Written tests Quarterly exams final exams Daily evaluation
Twelfth	4	Getting to know the maintenance routine after (500) working methods and -hours	Maintenance up after -follow hours of (500) methods -work	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation

		importance of maintaining the front wheel bearings and assembling the axles	and importance of maintaining the front wheel loaders and assembling the axles		
Thirteenth	4	Recognition up -Maintenance follow after (500) working hours How to maintain the cooling system and address external and internal leaks	Maintenance up after -follow working (500) hours How to maintain the cooling system and address external and internal leaks	workshop The lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fourteenth	4	Recognition Maintenance after one year of actual operation -its importance - conducting practical applications for this	Maintenance one year of after actual operation its importance - conducting - practical applications for this	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fifteenth	4	How to maintain the performance of transmission devices -steps to store the tow correctly	How to maintain the performance of transmission devices -steps to store the tow correctly	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation

95. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

96. Learning and Teaching Resources

Required textbooks (curricular books, if any)	General principles for maintaining agricultural tractors
Main references (sources)	General principles for maintaining agricultural tractors
Recommended books and references (scientific journals, reports...)	Id of maintenance of A collection of books in the agricultural tractors and their types
Electronic References, Websites	Check out websites in this field

Course Description Form

97. Course Name: Transmission	
98. Course Code: First academic year / Autumn semester	
99. Semester / Year: Second academic year / Autumn semester	
100. Description Preparation Date: 2024/2/14	
101. Available Attendance Forms: Attend a lecture	
102. Number of Credit Hours (Total) / Number of Units (Total): 5 hours / 5 units	
103. Course administrator's name (mention all, if more than one name):	
Name: Dr. Shakir M. Mousa	Email: inmshr@atu.edu.iq
104. Course Objectives	
Course Objectives	<ul style="list-style-type: none"> • Introducing the student to transmission belts and training him to use them correctly, maintain them, and maintain them
105. Teaching and Learning Strategies	
Strategy	<ol style="list-style-type: none"> 1- The student will be able to know the transmission devices in terms And knock types and components .Use and maintenance 2- power and estimate it according Be able to use means of transferri .to the type of work 3- Be able to know the parts of the clutch, gearbox, and transmission group in a scientific and practical manner 4- The student will be able to disassemble and install parts of .transportation devices
106. Course Structure	

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
The First	5	-linear motion Identify -acceleration -speed represent speed and acceleration and explain the importance of each	-Linear motion - speed -acceleration representing speed and acceleration and explaining the importance of each	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Second	5	Rotational Recognition g representin -motion -acceleration -speed the relationship between linear motion and rotational motion	Rotational -motion representing -speed -acceleration the relationship between linear motion and rotational motion	The workshop lecture Laboratory summer training	tten testsWri Quarterly exams final exams Daily evaluation
The Third	5	Torque Recognition the -and work importance of each and its relationship to -transmission devices .examples	Torque and the -work importance of each and its relationship to n transmissio -devices .examples	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Fourth	5	-Energy Recognition power -units -its types -forms of power - .solution to exercises	its -Energy -ts uni -types forms -power -of power solution to .exercises	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fifth	5	Direct Recognition flexible -transmission the -connections -importance of each ition of the defin its -flexible connection theory of -features .uses -operation	Direct -transmission flexible -connections the importance -of each definition of the flexible its -connection theory -features -of operation ...uses	The workshop lecture boratoryLa summer training	Written tests Quarterly exams final exams Daily evaluation
Sixth	5	Identifying the power its -off shaft -take	off -Power take sources -shaft	The workshop lecture	Written tests Quarterly exams

		-sources of movement -its various designs drawing different the drive -models pulley in agricultural s of its case -machinery .use	of its movement different - -designs drawing of different models drive pulley in - agricultural -machines .cases of its use	Laboratory summer training	xamsfinal e Daily evaluation
Seventh	5	Slides and Recognition the importance -belts the -of each of them effect of the sliding -process on the belts transmission of movement using the drawing -slide method different shapes of disadvantages of -them types of -em using th their advantages -belts .and disadvantages	Slides and belts the importance - of each of them the effect of - the sliding process on the -belts transmission of movement using the slide -method drawing different shapes -of them s disadvantage -of using them -types of belts their advantages and .disadvantages	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Eighth	5	-Separator Recognition -types -its definition or drawing the separat and explaining its parts exercises on sliding - and friction	its -Separator -definition drawing -types the separator and explaining -its parts exercises on sliding and friction	The workshop lecture Laboratory summer training	Written tests exams Quarterly final exams Daily evaluation
Ninth	5	Hydraulic Recognition separator and hydraulic -torque converter -importance .components	Hydraulic separator and hydraulic torque -converter -importance .components	The workshop lecture Laboratory ingsummer train	Written tests Quarterly exams final exams Daily evaluation
The Tenth	5	the -Identifying gears importance of transmitting movement the metal -with them -and shape of gears their advantages and their -disadvantages	the -Gears importance of transmitting movement -through them the metal and shape of the	The workshop lecture Laboratory rainingsummer t	Written tests Quarterly exams final exams Daily evaluation

		the forces acting -types causes of and the .reduction	their -gears advantages and -disadvantages the -their types forces acting and the cause of .reduction		
Eleventh	5	Recognition Differential gears and -the differential device the importance of each their working -of them designs of -principle the -differential gears working principle of -the differential device examples -its parts	Differential gears and the differential the -device importance of -each of them their working -principle designs of differential the -gears working principle of the differential its parts -device .esexampl -	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Twelfth	5	-Identify solar gears final transmission automatic gear -device parts -features -box .for all of the above	-Solar gears final transmission -device automatic gear -features -box parts for all of .the above	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Thirteenth	5	Ordinary Recognition its -its parts -gear box tages and advan its -disadvantages -its purpose -function its maintenance	Ordinary gear -its parts -box its advantages and -disadvantages its -its function its -purpose maintenance	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fourteenth	5	Automatic Recognition advantages -gear box -and disadvantages -purpose -function .maintenance	Automatic gear -box advantages and -disadvantages -function -purpose .maintenance	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fifteenth	5	Walking Recognition devices, tires, wheels, types, and methods of .reducing slippage	Walking devices, tires, wheels, types, and methods of reducing	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation

			.slippage		
107. Course Evaluation					
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc					
108. Learning and Teaching Resources					
Required textbooks (curricular books, if any)			transmission devices General principles for		
Main references (sources)			for transmission devices General principles		
Recommended books and references (scientific journals, reports...)			A collection of books in the field of transmission devices		
Electronic References, Websites			Check out websites in this field		

Course Description Form

109. Course Name: Agric. Machine Electricity

110. Course Code: Second academic year / Autumn semester

111. Semester / Year: Second academic year / Autumn semester

112. Description Preparation Date: 2024/2/14

113. Available Attendance Forms: Attend a lecture

114. Number of Credit Hours (Total) / Number of Units (Total): 5 hours / 5 units

115. Course administrator's name (mention all, if more than one name):

Name: Dr. Intisar M. Hamad Khdair

Email: Intisar.moh@gmail.com

116. Course Objectives

Course Objectives

- **Introducing and training the student on electrical devices and components in agricultural machinery and how to use them**

117. Teaching and Learning Strategies

Strategy

- 1- The student will be able to use electrical inspection and test devices
- 2- The student is familiar with all parts of the electrical system and its maintenance and maintenance of it.

118. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
The First	5	critical ele Recognizing -terms and symbols inspection and testing devices for the .electrical system	Electrical terms -and symbols inspection and testing devices for the electrical .system	The workshop lecture Laboratory summer training	Written tests Quarterly exams al examsfin Daily evaluation
The Second	5	Induction, Recognition induction, mutual -self induction, magnetism, magnetic field, conductors and insulators, electrical .circuits	-Induction, self induction, mutual induction, magnetism, magnetic field, nd conductors a insulators, electrical .circuits	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Third	5	The Recognition its installation -battery .how it works -	its -The battery -installation .works how it	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Fourth	5	Battery Recognition -maintenance -electrolytic fluid types of battery battery -charging battery -inspection .storage	y Batter -maintenance electrolytic types of -fluid battery charging battery - -inspection .battery storage	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fifth	5	Generator Recognition ration, components, ope maintenance and .repair	Generator components, operation, maintenance .and repair	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Sixth	5	Identify the charging how current is -circuit erted in the conv .circuit	Charging circuit how current is - converted in the .circuit	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Seventh	5	Current Recognition work -types -regulator nspection and i -parts - .replacement	Current types -regulator -parts -work - inspection and .replacement	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Eighth	5	The Recognition operation of the engine primary predecessor), parts,)	The operation of the primary engine predecessor),)	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation

		maintenance, and .repair	parts, maintenance, .and repair		
Ninth	5	The starter ignitionRec the starter -circuit the -motor switch -function of each part how to connect and connect the starter .circuit	The starter the -circuit starter motor the -switch function of each how to -part connect and connect the .starter circui	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Tenth	5	Identify the occupancy installation -work -file -condenser - .job -installation	Occupancy file -work - -installation - condenser -installation .job	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Eleventh	5	Spark Recognition -parts -distributor -calibration -function -parts -spark breaker .calibration -work	Spark -distributor function -parts -calibration - -spark breaker -work -parts .calibration	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Twelfth	5	Identifying the goblet tion func -parts -candle types of goblet - .candles	-Goblet candle function -parts types of goblet - .candles	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Thirteenth	5	Distributor Recognition comparing it -work with the electric distributor	Distributor -work comparison with the electric .distributor	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fourteenth	5	Lighting Recognition ,in tows and vehicles wiring distribution system, traffic lights, maintenance and .repair	Lighting in tows and vehicles, wiring distribution system, traffic lights, maintenance .and repair	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fifteenth	5	Recognition Maintenance of the -electrical system inspection and testing of the electrical system for agricultural .machinery	Maintenance of the electrical -system inspection and testing of the electrical system for tural agricul .machinery	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation

119. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

120. Learning and Teaching Resources

Required textbooks (curricular books, if any)	electrical agricultural General principles machinery
Main references (sources)	icultural electrical agr General principles machinery
Recommended books and references (scientific journals, reports...)	agricultural A collection of books in the field of machinery electricity
Electronic References, Websites	Check out websites in this field

Course Description Form

121. Course Name: Irrigation Equipment

122. Course Code: Second academic year / Autumn semester

123. Semester / Year: Second academic year / Autumn semester

124. Description Preparation Date: 2024/2/14

125. Available Attendance Forms: Attend a lecture

126. Number of Credit Hours (Total) / Number of Units (Total): 4 hours / 4 units

127. Course administrator's name (mention all, if more than one name):

Name: Dr. muatafa H. Waryoosh

Email: Wr.mustafa@atu.edu.iq

128. Course Objectives

Course Objectives

- **Knowing the importance of water and sources of irrigation water in Iraq, and learning about irrigation methods and pumps**

129. Teaching and Learning Strategies

Strategy

- he student will be able to determine the relationship of soil to T water, plants, type of irrigation, and water measurement

130. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
The First	4	Learn about the beginning of irrigation, irrigation sources in Iraq	the beginning of irrigation, irrigation sources in Iraq	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Second	4	Learn about Soil – Water – Plant relationship	Soil – Water – Plant relationship	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Third	4	Learn about Irrigation Requirement, Consumptive Use	Irrigation Requirement, Consumptive Use	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Fourth	4	Learn about Irrigation water Conveyance	Irrigation water Conveyance	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fifth	4	Learn about Pumps, their importance and types	Pumps, their importance and types	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Sixth	4	Learn about Pumping principle and pump efficiency measurement	Pumping principle and pump efficiency measurement	workshop The lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Seventh	4	Learn about Power Requirement and Pumping efficiency	Power Requirement and Pumping efficiency	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Eighth	4	Learn about Factors limit to select pump	Factors limit to select pump	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Ninth	4	Learn about Centerfugal Pumps	Centerfugal Pumps	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Tenth	4	Learn about Turbine Pumps	Turbine Pumps	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Eleventh	4	Learn about Mixed	Mixed Flow	The workshop	Written tests

		Flow Pumps	Pumps	lecture Laboratory summer training	Quarterly exams final exams Daily evaluation
Twelfth	4	Learn about Piston Pumps	Piston Pumps	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Thirteenth	4	Learn about Conditions of Pumps Setup	Conditions of Pumps Setup	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fourteenth	4	Learn about Methods of surface irrigation, sub-surface irrigation	Methods of surface irrigation, sub-surface irrigation	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fifteenth	4	Learn about Sprinkler and Drip irrigation methods	Sprinkler and Drip irrigation methods	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation

131. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

132. Learning and Teaching Resources

Required textbooks (curricular books, if any)	General principles for irrigation equipment
Main references (sources)	General principles for irrigation equipment
Recommended books and references (scientific journals, reports...)	A collection of books in the field of irrigation
Electronic References, Websites	Check out websites in this field

Course Description Form

133. Course Name: Agric. Machine Hydraulic

134. Course Code: Second academic year / Autumn semester

135. Semester / Year: Second academic year / Autumn semester

136. Description Preparation Date: 2024/2/14

137. Available Attendance Forms: Attend a lecture

138. Number of Credit Hours (Total) / Number of Units (Total): 5 hours / 5 units

139. Course administrator's name (mention all, if more than one name):

Name: Dr. Intisar M. Hamad Khdair

Email: Intisar.moh@gmail.com

140. Course Objectives

Course Objectives

- **Introducing the student to the concept of hydraulics - hydraulic measuring devices - hydraulic devices and systems and how to use them and perform maintenance on them.**

141. Teaching and Learning Strategies

Strategy

- 1- Introducing and training the student on hydraulic devices and systems in agricultural machinery.
- 2- Introducing and training the student on the types of open and closed systems.
- 3- Introducing the student to hydraulic uses in pullers, heavy machinery, and excavators.
- 4- Introducing the student to the nature of hydraulic fluids - their features - their replacement -

treatment of seepage.

142. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
The First	5	Identifying introduction to basic -hydraulics principles in hydraulics .units used -symbols -	Introduction to -hydraulics basic principles -in hydraulics units -symbols .used	The workshop lecture toryLabora summer training	Written tests Quarterly exams final exams Daily evaluation
The Second	5	The main Recognition parts of the hydraulic types of -system .hydraulic systems	The main parts of the hydraulic types -system of hydraulic .systems	op The worksh lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Third	5	Open Recognition -hydraulic systems types of connections .for this type of system	Open hydraulic types -systems of connections f for this type o .system	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Fourth	5	Closed Recognition -hydraulic systems types of connections ..for this type of system	Closed hydraulic types -systems nections of con for this type of .system	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fifth	5	Recognition Comparison between types of open and .closed systems	Comparison between types of open and .ed systemsclos	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Sixth	5	Learn about hydraulic applications in .agricultural machinery	Hydraulic applications in agricultural .machinery	The workshop turelec Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Seventh	5	Use of the Recognition hydraulic system in the hydraulic driving .device	Use of the hydraulic system in the hydraulic . .driving device	The workshop relectu Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Eighth	5	Use of the Recognition hydraulic system in the hydraulic position .device	Use of the hydraulic system in the hydraulic .position device	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Ninth	5	Using the Recognition hydraulic system in the lifting and lowering	Using the hydraulic system in the	The workshop lecture Laboratory	Written tests Quarterly exams final exams

		device for hydraulic .equipment in tows	lifting and device lowering for hydraulic equipment in .tows	summer training	Daily evaluation
The Tenth	5	Identify the uses of the hydraulic system in heavy machinery (cranes -excavators)	Uses of the hydraulic system in heavy machinery excavators,) .(cranes	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Eleventh	5	Hydraulic Recognition pump -pumps -definition classification of pumps .types -	Hydraulic pump -pumps -definition classification of .types -pumps	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Twelfth	5	Identifying hydraulic -their types -valves h the function of eac the location of -type .the valve in the system	Hydraulic their -valves the -types function of each the -type location of the valve in the .system	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams ionDaily evaluat
Thirteenth	5	Hydraulic Recognition -its components -tank conditions that must be .types -oil cooler -met	-Hydraulic tank its components conditions that - -must be met -oil cooler .types	The workshop lecture Laboratory summer training	estsWritten t Quarterly exams final exams Daily evaluation
Fourteenth	5	Hydraulic Recognition conditions that -fluids types of -must be met .oil cooling	Hydraulic fluids conditions that - -must be met types of oil .cooling	The workshop lecture Laboratory training summer	Written tests Quarterly exams final exams Daily evaluation
Fifteenth	5	Daily and Recognition periodic maintenance of the hydraulic system how to perform it at - .the specified times	Daily and periodic maintenance of the hydraulic how to -system perform it at the .specified times	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation

143. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

144. Learning and Teaching Resources

Required textbooks (curricular books, if any)	agricultural machinery General principles
---	---

	hydraulics
Main references (sources)	agricultural machinery of General principles of hydraulics
Recommended books and references (scientific journals, reports...)	agricultural A collection of books in the field of machinery hydraulics
Electronic References, Websites	Check out websites in this field

Course Description Form

145. Course Name: Agriculture Crop Service

146. Course Code: Second academic year / Autumn semester

147. Semester / Year: Second academic year / Autumn semester

148. Description Preparation Date: 2024/2/14

149. Available Attendance Forms: Attend a lecture

150. Number of Credit Hours (Total) / Number of Units (Total): 4 hours / 4 units

151. Course administrator's name (mention all, if more than one name):

Name: Mina Masaher Alwan

Email: mena.alwan@atu.edu.iq

152. Course Objectives

Course Objectives

- Helping the student to use agricultural, seed, control and fertilization equipment and comparing it to manual farming and ality of agricultural the extent of its impact on increasing and qu .production

153. Teaching and Learning Strategies

Strategy

- 1- Distinguish between mechanized agriculture and manual agriculture.
- 2- Use agricultural equipment and serve the crop in a scientific and practical manner.
- 3- Conducting the process of adjustment, networking, calibration, maintenance and maintenance operations.

154. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
The First	4	the Recognizing importance of mechanized agriculture a comparison between - mechanized and .manual agriculture	The importance of mechanized a -agriculture comparison between mechanized and manual .agriculture	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams luationDaily eva
The Second	4	Scattering Recognition -types -machine -operation -installation .use -calibration	Scattering types -machine -installation - -operation use -calibration	The workshop lecture Laboratory summer training	Written tests exams Quarterly final exams Daily evaluation
The Third	4	Seed Recognition installation -equipment seed feeding - -types -mechanism work mechanism -cups effect of speed on the - .quantity of seeds	Seed equipment -installation - seed feeding -mechanism - types -containers work -mechanism effect of speed on the amount of seeds	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Fourth	4	the Identifying attachment of seed to laboratory -the puller -d field calibration an types of seeds in terms of the method of -attachment mathematical .examples	Attaching the seed to the -puller laboratory and field calibration types of seeds - in terms of the method of -attachment mathematical .examples	op The worksh lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fifth	4	Planting Recognition -equipment in lines seed models and square types of -planting square planting (at the on -bottom of the stalk on -flat ground seed -shoulders) feeding -storage unit	Planting equipment in seed and -lines square planting types -models of square planting (at the bottom of the on flat -stalk	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation

		seed -mechanism organization -tubes -and standardization .mulching unit	on -ground -shoulders) seed storage feeding -unit -mechanism -seed tubes organization and standardization mulching unit -		
Sixth	4	Identifying the yellow -rn planter co -installation .use -calibration	Yellow corn -planter -installation -calibration .use	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Seventh	4	Cotton Recognition -lation instal -planter .use -calibration	-Cotton planter -installation -calibration .use	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Eighth	4	Sugar beet Recognition -types -cultivator alibration c -installation .use -	Sugar beet -cultivator -types -installation -calibration .use	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Ninth	4	A general Recognition idea about mechanical rice - seedlings seedling -planting seed -preparation seed -selection .weeding -treatment	A general idea about mechanical rice -seedlings -planting seedling -preparation -seed selection -seed treatment .weeding	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Tenth	4	Identify field -preparation (plowing -flooding) -leveling -machine installation -seedling mechanism .use -calibration	Field preparation -plowing) -leveling -flooding) machine -installation seedling -mechanism -calibration .use	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Eleventh	4	A general Recognition idea about pest control operations and - sprinklers in general the pumps -their types	A general idea about pest control operations and sprinklers in	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation

		their -their types -used .installation	their -general the -types -pumps used -their types their .installation		
Twelfth	4	Identifying automatic -motorized sprayers the purpose for which -they are used -operating regulations -regulating the dosage calculating the amount of pesticide	Automatic d motorize the -sprayers purpose for which they are operating -used -regulations regulating the -dosage calculating the amount of pesticide	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Thirteenth	4	Fogging Recognition -their types -machines -use -installation advantages -operation -disadvantages - calculations for regulating the amount	Fogging their -machines -types -installation -operation -use -advantages -disadvantages for calculations regulating the .agent	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fourteenth	4	Recognition -Fertilization machines organic fertilizer -installation -machine .operation -calibration	tilization Fer -machines organic fertilizer -machine -installation -calibration .operation	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fifteenth	4	Flame Recognition -installation -throwers use -peration o	Flame throwers -installation - .use -operation	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation

155. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

156. Learning and Teaching Resources

Required textbooks (curricular books, if any)	crop cultivation and service equipment	General principles
Main references (sources)	crop cultivation and service	General principles

	equipment
Recommended books and references (scientific journals, reports...)	crop A collection of books in the field of farming and service equipment
Electronic References, Websites	out websites in this field Check

Course Description Form

157. Course Name: Project

158. Course Code: Second academic year / Autumn semester

159. Semester / Year: Second academic year / Autumn semester

160. Description Preparation Date: 2024/2/14

161. Available Attendance Forms: Attend a lecture

162. Number of Credit Hours (Total) / Number of Units (Total): 2 hours / 2 units

163. Course administrator's name (mention all, if more than one name):

Name: Dr. muatafa H. Waryoosh

Email: Wr.mustafa@atu.edu.iq

164. Course Objectives

Course Objectives

- The student will be able to implement and manage agricultural projects

165. Teaching and Learning Strategies

Strategy

- 1- The student will be able to determine the cost of the project and determine its requirements
- 2- The student will be able to use machines and machinery, calibrate and adjust them during the period of their use to manage the project.
- 3- Be able to carry out maintenance, maintenance and storage of the equipment and machines used in the project

	4- Be able to calculate the project's profits and confront and overcome obstacles.
--	--

166. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	how to use the library and find and select sources	Learn how to use the library and find and select sources	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
2	2	How to use the internet to collect the information about each experiment	Recognition of the Internet to collect information for each experiment	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
3	2	Learn how to design and plan agricultural experiments	Recognition of how to design and plan agricultural experiments	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
4	2	Identify the project, configuration, determine the allocated space, and prepare the machines required to prepare the seedbed	Preparing the project, determining the allocated space, and preparing the machines required to prepare the seedbed	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
5	2	Start the plowing process and follow the appropriate method	Recognition of the plowing process and follow the appropriate method	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
6	2	Learn about the leveling process using a leveling machine and determining highs and lows	Recognition of the leveling process using a leveling machine and determining highs and lows	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
7	2	Preparing the agricultural machine in brief with laboratory calibration	Recognition of the agricultural machine in brief with laboratory calibration	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
10-8	2	Discussing seminars prepared by each student under the	Recognition of seminars prepared by each	The workshop lecture Laboratory	Written tests Quarterly exams final exams

		supervision of teaching .staff	student under the sion of supervi .teaching staff	summer training	Daily evaluation
11	2	Collect Recognition data for each experiment from the library and the Internet	Collect data for each experiment e library from th and the Internet	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
12	2	Learn about the steps of preparing and writing research	Learn about the steps for preparing and writing research	workshop The lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
13	2	Planting Recognition the crop, making rakes, opening the tillers, and determining the amount of seeds per dunum and fertilizer as well	e Planting th crop, making rakes, opening the tillers, and determining the amount of seeds per dunam and .fertilizer as well	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
14	2	Learn about watering op that has been the cr planted, operating and maintaining pumps, following up on the crop in terms of maturity, and preparing .harvesting equipment	Watering the crop that has been planted, operating and maintaining pumps, monitoring the crop in terms of y, and maturit preparing harvesting .equipment	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
15	2	Recognition Calculating the germination rate of the crop and studying the efficiency of the ltivation machine's cu .process	Calculating the germination rate of the crop and studying the efficiency of the machine's cultivation .process	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
16	2	atering W Recognition the crop and operating .baling machines	Watering the crop and operating baling .machines	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
17	2	Recognition Monitoring crop germination and termining the de moisture content of the .crop's fruits	Monitoring crop germination and determining the moisture content of the crop's .fruits	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
18	2	Use ognitionRec	Use hoeing,	The workshop	Written tests

		hoeing, weeding and pest control machines, specifying the quantity, type and method of -mixing the pesticide using the appropriate .machine	weeding and pest control machines, specifying the quantity, type and method of mixing the using -pesticide the appropriate .machine	lecture Laboratory summer training	Quarterly exams final exams Daily evaluation
20-19	2	Follow the Recognition .growth of the crop	Follow the growth of the .crop	The workshop lecture boratoryLa summer training	Written tests Quarterly exams final exams Daily evaluation
21	2	Carrying Recognition out the harvesting .process	Carrying out the harvesting .process	The workshop lecture Laboratory summer training	Written tests Quarterly exams nal examsfi Daily evaluation
30-22	2	Collect the Recognition .data obtained	Collect the data .obtained	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation

167. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

168. Learning and Teaching Resources

Required textbooks (curricular books, if any)	research a graduation General principles for project
Main references (sources)	research a graduation General principles for project
Recommended books and references (scientific journals, reports...)	graduation A collection of books in the field of project research
Electronic References, Websites	Check out websites in this field

Course Description Form

169. Course Name: Baath Party CrimesBaath Party Crimes

170. Course Code: Second academic year / Autumn semester

171. Semester / Year: Second academic year / Autumn semester

172. Description Preparation Date: 2024/2/14

173. Available Attendance Forms: Attend a lecture

174. Number of Credit Hours (Total) / Number of Units (Total): 2hours / 2 units

175. Course administrator's name (mention all, if more than one name):

Name: mostafaa ahmed

Email: Mustafa.abid@atu.edu.iq

176. Course Objectives

Course Objectives

**Qualifying the student to be able to
.Learn about local and international laws that deal with human rights issues**

177. Teaching and Learning Strategies

Strategy

The student will be able to
To be able to identify the types of crimes committed within the country and distinguish between them. Between them and crimes against humanity

178. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Concept and definition of crimes and their types	Definition of crimes	Alecture	Daily exam Monthly exam
2	2	Position of the Iraqi High Criminal Court Law of 2001 2005	The most important decisions issued by the	Alecture	Daily exam Monthly exam

			Supreme Criminal Court		
3	2	international crimes	Types of international crimes	Alecture	Daily exam Alecture Monthly exam
4	2	The most important decisions issued by the Supreme Criminal Court	the role of the Baath regime in psychological violations and their consequences	Alecture	Daily exam Monthly exam
5	2	he role of the Baath regime	The role of the Baath regime in psychological violations and their consequences	Alecture	Daily exam Monthly exam
6	2	The violative role of the Baath Party	The Baath regime's position on religion and religious institutions	Alecture	Daily exam Monthly exam
7	2	System position	The role of the Baath regime in violating human rights laws	Alecture	Daily exam Monthly exam
8	2	The role of the Baath regime	and military violations of the Baath regime		
9	2	Violations	Baath regime environmental violations		
10	2	Baath regime environmental violations	Iraq / War Pollution		
11	2	War pollution	Baath regime environmental violations in Iraq destroying cities		
12	2	destroy cities	Drying the marshes		
13	2	Baath regime violations	and Sharia Conditioning of the Crime of Mass Graves		
14	2	Legal conditioning	The role of the regime in the mass		

			graves in Iraq		
15	2	mass graves	The role of the regime in the mass graves in Iraq		

179. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

180. Learning and Teaching Resources

Required textbooks (curricular books, if any)	1. Required Textbooks
Main references (sources)	Main References (Sources)
Recommended books and references (scientific journals, reports...)	Recommended books and references ,scientific journals) (...reports
Electronic References, Websites	Electronic references, websites

181. Course Name: Computer Application

182. Course Code: Second academic year / Autumn semester

183. Semester / Year: Second academic year / Autumn semester

184. Description Preparation Date: 2024/2/14

185. Available Attendance Forms: Attend a lecture

186. Number of Credit Hours (Total) / Number of Units (Total): 2hours / 2 units

187. Course administrator's name (mention all, if more than one name):

188. Course Objectives

Course Objectives	<ul style="list-style-type: none"> Introducing the student to electronic computers, their importance, their working system and parts, preparing him to deal with the calculator, and training him to do or participate in applied programs in the field of specialization.
--------------------------	---

189. Teaching and Learning Strategies

Strategy	1- The student works on the calculator, enters data, and obtains the results
-----------------	--

190. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
3-1	2	the Learn about concept of networks and their types, the Internet and how to operate it, the home screen, connecting to the World WideWeb , taking advantage of global search engines such asYahoo & Google ways to , .access information	The concept of networksand their types, the Internet and how to operate it, the home screen, connection to the World Wide Web taking , advantage of global search engines such as Yahoo & Google ways , to access .information	calculator centerCa	Written tests Quarterly exams final exams Daily evaluation
14-4	2	RecognitionExcel spreadsheet processor	Excel spreadsheet	Calculator center	Written tests Quarterly exams final exams

		program , specifications, features, how to operate, the main screen and its -components, drop down lists, the cell and data the types of data entered	processor program , specifications, features, how to operate, the main screen and its components, down lists, -drop the cell and the types of data entered		evaluationDaily evaluation
	2	Learn how to save and retrieve a worksheet , close the program, retrieve the file, enter data and perform simple calculations, and adjust and format data within a cell	Saving and retrieving the worksheet , closing the program, retrieving the file, entering data and performing simple calculations, adjusting and formatting data within the cell	Calculator center	Written tests Quarterly exams final exams Daily evaluation
	2	ways to Learn about collect and sort data, and use some mathematical functions such as Max, Min, Sum, Count, Sqrt.	Methods of collecting and sorting data, using some mathematical functions such as Max, Min, Sum, Count, Sqrt.	Calculator center	Written tests Quarterly exams final exams Daily evaluation
	2	Learn about redaction performing operations within cells, copying and moving data, copying calculations, the concept of relative cells and absolute cells , using formatting tools to control cell operations, dealing with charts converting , numerical and textual data into charts	Performing revision operations within cells, copying and moving data, copying calculations, the concept of relative cells and absolute cells using , formatting tools to control cell operations, dealing with charts ,	Calculator center	Written tests Quarterly exams final exams Daily evaluation

			converting numerical and into textual data .charts		
	2	Learn about adding and deleting rows and columns on a work page, printing digital .data and charts	Adding and deleting rows and columns on the work page, digital printing .data and charts	Calculator center	Written tests Quarterly exams final exams Daily evaluation
30-15	2	RecognitionSpss statistical program , operation, data analysis steps, main screen components, entering data, saving and retrieving it, sorting and altering data, defining the statistical .procedure	Spss statistical program , operation, data analysis steps, main screen components, entering data, saving and retrieving it, sorting and altering data, defining the statistical .procedure	terCalculator cen	Written tests Quarterly exams final exams Daily evaluation
	2	about Learnvariable , inclusioncase , analysis and descriptive statistics. Statistical summary of data, reports for columns and .rows	Inclusion of the variable ,case analysis and , escriptive d statistics. Statistical summary of data, reports for columns and .rows	Calculator center	Written tests Quarterly exams final exams Daily evaluation
	3	RecognitionCompare means comparison , ,between variables correlation , regression .	Compare means , comparison between ,variables correlation , regression .	Calculator center	Written tests Quarterly exams final exams Daily evaluation
	3	Getting to know Quality Control panel applications dealing , with charts, and dealing h with commands suc :asSummarize, Custom table, Anova models, and Non-	Quality Control panel applications , dealing with charts, dealing with commands :such as Summarize,	Calculator center	tsWritten tes Quarterly exams final exams Daily evaluation

		parametric methods .	Custom table, Anova models, Non- parametric methods .		
191. Course Evaluation					
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc					
192. Learning and Teaching Resources					
Required textbooks (curricular books, if any)			(computer applications (2 General principles of		
Main references (sources)			(computer applications (2 General principles of		
Recommended books and references (scientific journals, reports...)			computer tion of books in the field of Collec (applications (2		
Electronic References, Websites			Check out websites in this field		

Course Description Form

193. Course Name: Tractors Repairing
194. Course Code: Second academic year / Second semester
195. Semester / Year: Second academic year / Second semester
196. Description Preparation Date: 2024/2/14
197. Available Attendance Forms: Attend a lecture
198. Number of Credit Hours (Total) / Number of Units (Total): 4 hours / 4 units

199. Course administrator's name (mention all, if more than one name):

Name: Abass F. Abd

Email: Abbas.fadhil1983.ism@atu.edu.iq

200. Course Objectives

Course Objectives	<ul style="list-style-type: none"> • pment for repair, and Training on how to use tools and equi osing faults and how to fix the training the student on diagnm.
--------------------------	--

201. Teaching and Learning Strategies

Strategy	<ul style="list-style-type: none"> • The student will be able to use repair tools and equipment. • The student will be able to diagnose faults and how to fix them
-----------------	--

202. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
The First	4	the definition of Know the difference -repair between repair and .maintenance	Definition of the -repair difference between repair .nd maintenancea	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Second	4	the repair Identifying types of repair -shop conditions that -shops must be met in the security -repair shop ety precautions and saf .for the workshops	Repair workshop Types of repair - -workshops Conditions that must be met in the repair -workshop Security and safety precautions .for workshops	The workshop lecture Laboratory summer training	Written tests exams Quarterly ex final exams Daily evaluation
The Third	4	-Engine faults - diagnosing them how to detect learning the correct ways -them to use devices in the process of detecting .faults	-Engine faults -their diagnosis how to detect the correct -them e ways to us devices in the process of .detecting faults	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Fourth	4	opening Knowing about Precautions -the engine that must be taken into ng account when openi Method of -the engine numbering for engine	Opening the -engine Precautions that must be taken into account when opening the	The workshop lecture ratory Labo summer training	Written tests Quarterly exams final exams Daily evaluation

		Reasons for -parts .numbering	Method -engine of numbering for -engine parts Reasons for .numbering		
Fifth	4	valves, their Identify rules, and the basics of .maintaining them	Valves, their rules, and the basics of .maintaining them	The workshop lecture Laboratory summer iningtra	Written tests Quarterly exams final exams Daily evaluation
Sixth	4	repairing Learn about valves and their valve -accessories repairing the -guide adjusting -tactile shaft -valve clearance checking and treating - the cylinder block tection Consumption de valve clearance - .treatment	Repairing valves and their -accessories -Valve guide Repairing the -tach shaft Adjusting valve -clearance Inspecting and treating the - cylinder block Consumption valve -detection clearance .treatment	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Seventh	4	inspecting Learn about and repairing pistons with the required -technical principles -shapes of pistons method of limiting examining -expansion how to -on rings pist .install them	Inspecting and repairing pistons according to the required technical -principles shapes of pistons method of - limiting -expansion examining piston how to -rings .install them	The workshop lecture Laboratory summer ngtraini	Written tests Quarterly exams final exams Daily evaluation
Eighth	4	cylinder Identifying cylinder shapes -repair -examining it - -cylinder turning methods of smoothing replacing the -it cylinder and connecting detecting -rods .bending and torsion	-Cylinder repair -cylinder shapes -inspection -cylinder turning methods of -smoothing it replacing the cylinder and -connecting rods detecting bending .torsion -	The workshop lecture Laboratory summer training	Written tests Quarterly exams sfinal exam Daily evaluation
Ninth	4	the Identifying crankshaft, repairing it, and methods of	The crankshaft, its repair and methods for	The workshop lecture Laboratory	Written tests Quarterly exams final exams

		-inspecting its parts detecting static balance examining the - -turning it -crankshaft checking the accuracy .of the turning	inspecting its detecting -parts -static balance examining the -crankshaft -turning it checking the accuracy of the .turning	summer training	Daily evaluation
The Tenth	4	camshaft outLearn ab repair, emphasizing the importance of its connection to the crankshaft and .connecting rod	Repairing the camshaft, emphasizing the importance of its connection to the crankshaft and .connecting rod	The workshop lecture Laboratory summer ngtraini	Written tests Quarterly exams final exams Daily evaluation
Eleventh	4	a scientific Learn about visit to learn about the actual work of the basics of repair of .engine parts	A scientific visit to learn about the actual work of the basics of repair of .gine partsen	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Twelfth	4	repairing Learn about the diesel fuel system, diagnosing faults, and .performing repairs	Repairing the diesel fuel system diagnosing - -faults performing .repairs	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Thirteenth	4	repairing Learn about the gasoline fuel system -diagnosing faults - steps for repair and bration of the cali .carburetor	Repairing the gasoline fuel -system diagnosing faults steps for repair - and calibration of .the carburetor	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fourteenth	4	repairing Learn about the cooling and .lubrication system	Repairing the cooling and lubrication .system	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fifteenth	4	the repair of Identifying nical and mecha the -hydraulic brakes mechanics of two types -of brake operation diagnosing faults for .repair steps -each	Repairing mechanical and -hydraulic brakes Mechanical operation of two -types of brakes Diagnosing faults Repair -for each .steps	workshop The lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation

203. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

204. Learning and Teaching Resources

Required textbooks (curricular books, if any)	General principles for repairing agricultural tractors
Main references (sources)	General principles for repairing agricultural tractors
Recommended books and references (scientific journals, reports...)	A collection of books in the field of agricultural tractor repair
Electronic References, Websites	Check out websites in this field

Course Description Form

1. Course Name: Harvesting Machine

2. Course Code: Second academic year / Second semester

3. Semester / Year: Second academic year / Second semester

4. Description Preparation Date: 2024/2/14

5. Available Attendance Forms: Attend a lecture

6. Number of Credit Hours (Total) / Number of Units (Total): 5 hours / 5 units

7. Course administrator's name (mention all, if more than one name):

8. Course Objectives

Course Objectives	<ul style="list-style-type: none"> Familiarization and training with wheat and barley harvesters, sugar beet harvesters, tuber crop harvesters, green fodder threshing machines, cotton harvesters, bale balers, and other em and how harvesters, knowing their parts and operating syst to operate and maintain them.
--------------------------	---

9. Teaching and Learning Strategies

Strategy	<ul style="list-style-type: none"> Introducing the student to how to operate and operate harvestin harvesting, and harvesting equipment
-----------------	--

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
The First	5	Getting to know mechanized harvesting -and its benefits comparison between mechanized and manual dividing -harvesting harvesting and .harvesting equipment	Automatic harvesting - and its benefits comparison between automatic and -manual harvesting division of harvesting and harvesting .equipment	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Second	5	Harvester units and their - assemblies operation, operation, maintenance, and how to .transfer the movement	Harvester units and their -assemblies operation, operation, maintenance, and how to transfer the .movement	The workshop lecture Laboratory summer training	Written tests y Quarterl exams final exams Daily evaluation
The Third	5	the set of Identifying parts, its parts, installation, calibration, grain losses, and .maintenance	-A group of parts their -their parts their -installation grain -calibration their -losses	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation

			.maintenance		
The Fourth	5	the Identifying its -transmission group -how it works -parts calibrating and .maintaining it	The transportation - its parts -group its -how it works calibration and .maintenance	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fifth	5	the standard Identifying group, calibrating parts, studying losses, treating they them, and how .work	A group of machines -calibrated parts - -studying losses how -treating them .they work	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Sixth	5	the Getting to know aning separation and cle the -the parts -group how to -crop route calibrate and reduce .losses	Separation and -cleaning group -crop route -parts how to calibrate and .reduce losses	The workshop lecture Laboratory summer training	Written tests Quarterly exams sfinal exam Daily evaluation
Seventh	5	how to transfer Learn movement from the engine to the harvester's -assemblies and parts the theory of the work of .belts, belts and gears	How to transfer movement from the engine to the assemblies and parts the - of the harvester theory of the operation of the belts .gears -belts -	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Eighth	5	seasonal Learn about maintenance of wheat -and barley harvesters harvester modifying the .to harvest other crops	Seasonal maintenance of the wheat and barley modifying -harvester the harvester to .harvest other crops	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Ninth	5	the sugar identifyingI beet harvesting machine its -types of cuttings - -its parts -operation adjusting and calibrating .the machine	Sugar beet harvesting types of -machine its -cuttings -its parts -operation adjusting and calibrating the .machine	workshop The lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Tenth	5	the roots of Identifying the roots of -tuber crops -their types -potatoes the theory of their their -operation .evaluation	s of Rooting crop cuttings -tuber crops their -of potatoes theory of -types -operation of each .their measurement	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Eleventh	5	feed cutting Identifying es, their machin installation, working theory, types, .maintenance and storage	Feed cutting their -machines working -installation -types -theory maintenance and .storage	The workshop lecture Laboratory summer training	Written tests Quarterly exams msfinal exa Daily evaluation

Twelfth	5	feed pressing Identifying and transporting -their types -machines -theory of operation .maintenance	Feed pressing and transporting their -machines theory of -types -operation .maintenance	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Thirteenth	5	the feed Identifying the -pressing machine -how it works -baler .storing it -calibrating it	The feed pressing -the baler -machine -how it works - calibrating it .storing it	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fourteenth	5	the cotton Identifying its -collecting machine its -working system .its installation -types	Cotton collecting its -e machin its -working system its -types .installation	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fifteenth	5	How the cotton windmill -works with its systems .its maintenance	n How the cotto windmill works with its -its systems .maintenance	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Reaping and harvesting General principles machines
Main references (sources)	reaping and harvesting principles for General machines
Recommended books and references (scientific journals, reports...)	reaping A collection of books in the field of and harvesting machines
Electronic References, Websites	Check out websites in this field

Course Description Form

205. Course Name: Animal Production Machine
206. Course Code: Second academic year / Second semester
207. Semester / Year: Second academic year / Second semester
208. Description Preparation Date: 2024/2/14
209. Available Attendance Forms: Attend a lecture
210. Number of Credit Hours (Total) / Number of Units (Total): 4 hours / 4 units

211. Course administrator's name (mention all, if more than one name):

Name: Marwa K. Abd

Email: Marwa.khalid@atu.edu.iq

212. Course Objectives

Course Objectives	<ul style="list-style-type: none"> • Training and knowledge of the student about the mechanization of animal production and how to operate, sustain and maintain .it
--------------------------	---

213. Teaching and Learning Strategies

Strategy	<ul style="list-style-type: none"> • e to operate devices and equipment in The student will be abl poultry, cattle and sheep fields, feed mills, slaughterhouses, electric generators and water pumps, and perform maintenance . .and repair
-----------------	---

214. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
The First	4	Get a general idea about the mechanization of animal production -hatcheries -fields -slaughterhouses fields -fodder factories for cows, sheep, and poultry, water refineries, and electrical .generators	eral idea A gen about the mechanization of animal production hatcheries, -fields slaughterhouses, feed factories, cattle, sheep and poultry fields, water refineries and electrical .generators	The workshop lecture Laboratory summer training	Written tests ly examsQuarter final exams Daily evaluation
The Second	4	Identifying the use of the blacksmithing and -gas welding workshop the tools, tools and devices present in it	Use of the blacksmithing and gas welding the -workshop tools, tools and .devices in it	The orkshop w lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Third	4	Learn about the use of -electric arc welding the importance of electric welding and its	The use of electric the -arc welding ance of import electric welding	The workshop lecture Laboratory	Written tests Quarterly exams final exams Daily evaluation

		.uses	.and its uses	summer training	
The Fourth	4	Identifying electricity in animal production phase -single -fields phase -and three the - electricity -electrical cycle electrical terms and .symbols	Electricity in animal production -single -fields -phase and three -phase electricity the electrical cycle electrical terms - .and symbols	The workshop lecture Laboratory summer training	Written tests arterly examsQu final exams Daily evaluation
Fifth	4	Learn about the mechanization of the -poultry hatcheries importance of the devices -hatcheries egg -in them -incubation devices egg preservation and -inspection devices .incubators	Mechanization of -oultry hatcheries p the importance of devices -hatcheries egg -in them -grading devices devices for preserving and -examining eggs .incubators	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Sixth	4	Learn about the mechanization of broiler farms, electric and gas incubators, air conditioning devices, feeders, manholes, laying hen cages, and .types of cages	Mechanization of broiler fields, electric and gas incubators, air conditioning eeders, devices, f manholes, laying hen cages, and .types of cages	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Seventh	4	Learn about the mechanization of concentrated feed types -processing parts of -ories feed fact types -the feed factory -of grinders and mixers .maintenance and repair	Mechanization of concentrated feed types -processing -of feed factories parts of the feed types of -factory grinders and mixers maintenance and - .repair	The shop work lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Eighth	4	Learn about the mechanization of cattle and sheep fields, tools and devices, feed cleaning devices, drinking water troughs, cooling and spraying vices, wool shearing de .and dipping devices	Mechanization of cattle and sheep tools and -fields feed -devices cleaning devices, drinking water cooling -troughs and spraying wool -devices shearing and .dipping devices	The workshop lecture Laboratory r summe training	Written tests Quarterly exams final exams Daily evaluation
Ninth	4	Identifying the automatic milking	Automatic parlor the function -parts	The workshop	Written tests Quarterly exams

		machine's parts, the function of each part, types of milking machines, and milk .preservation devices	types -each part of milk -of parlors preservation .devices	lecture Laboratory summer training	final exams Daily evaluation
The Tenth	4	Learn about the mechanization of green -fodder processing -green fodder harvesters -hay baling machines - types, maintenance, and .repair	Mechanization of green fodder green -processing -fodder harvesters hay baling machine types, - maintenance, .repair	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Eleventh	4	Learn about the mechanization of poultry slaughterhouses livestock - -slaughterhouses -slaughter methods devices for cutting and .preserving meat	Mechanization of poultry -slaughterhouses livestock -uses slaughterhouse slaughtering devices -methods for cutting and .preserving meat	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Twelfth	4	-Identify water pumps operation, -their types and maintenance, and .repair	-Water pumps operation, -types maintenance, and .repair	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Thirteenth	4	-Identifying generators -parts -their types -operation .maintenance	their -Generators -parts -types -operation .maintenance	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fourteenth	4	Learn about calculating the project's need for -generators calculating the energy needed to -operate the project electrical -lighting .appliances	Calculating the project's need for -generators calculating the energy needed to -operate the project electrical -lighting .appliances	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fifteenth	4	Learn about the mechanization of animal protein manufacturing from slaughterhouse waste (feathers, blood,) (internal organs	Mechanization of animal protein manufacturing from slaughterhouse waste (feathers, blood, internal organs	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation

215. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

216. Learning and Teaching Resources

Required textbooks (curricular books, if any)	mechanization of animal General principles for production
Main references (sources)	mechanization of animal General principles for production
Recommended books and references (scientific journals, reports...)	of A collection of books in the field mechanization of animal production
Electronic References, Websites	in this field Check out websites

Course Description Form

13. Course Name: Agriculture Machine Economic

14. Course Code: Second academic year / Second semester

15. Semester / Year: Second academic year / Second semester

16. Description Preparation Date: 2024/2/14

17. Available Attendance Forms: Attend a lecture

18. Number of Credit Hours (Total) / Number of Units (Total): 3 hours / 3 units

19. Course administrator's name (mention all, if more than one name):

Name: Dr. Mustafa H. Waryoosh

Email: Wr.mustafa@atu.edu.iq

20. Course Objectives

Course Objectives

- Introducing the student to the concept of production and optimal use of agricultural mechanization and applying .economic evaluation criteria to it

21. Teaching and Learning Strategies

Strategy

- The student must be able to:
 - 1- Determine the costs of agricultural production in terms of knowing the elasticity curves of demand and supply for agricultural products.
 - 2- Determine the optimal use of machines and the level of cost adequacy.
 - 3- Selecting the appropriate agricultural machinery and determining its .number

4- Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
The First	3	Learn about the to introduction production economics the concept of - -economics agricultural economics departments and - branches of agricultural .economics	Introduction to production the concept of -economics agricultural -economics departments -economics and branches of .ultural economicsagric	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Second	3	Identifying the concept types of -of production -production factors forms of agricultural - production functions	The concept of production types of production - forms of -factors agricultural production stages of -functions	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation

		.stages of production	.production		
The Third	3	Identify the demand for agricultural products the demand -products the elasticity of -curve -demand, the supply the -the supply curve -elasticity of supply .the equilibrium price	Demand for agricultural -demand curve -products and, elasticity of dem -supply curve -supply -elasticity of supply .equilibrium price	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Fourth	3	Identifying the types -of production costs e cost functions in th -short and long terms .ways to reduce costs	-Types of production costs cost functions in the short methods -and long terms .of reducing costs	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fifth	3	Identifying agricultural labor methods -productivity for measuring labor factors -productivity .affecting it	Agricultural labor methods for -productivity measuring labor factors -productivity .affecting it	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Sixth	3	Learn about the main .economic principles	.Main economic principles	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Seventh	3	Learn about capacity economics for machines and calculate theoretical and real field capacity and field .efficiency	Capacity economics for machines, calculating theoretical and real field capacity, and field .efficiency	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Eighth	3	Learn about calculating agricultural their types -work costs extinction, its causes, - and methods of .calculating it	Calculating the costs of r thei -agricultural work extinction, its -types causes, and methods of .calculating it	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Ninth	3	Identifying the optimal -use of machines intensive horizontal -nes use of machi indicators of the level of adequacy of .densification	-Optimal use of machines intensive horizontal use of indicators of the -machines level of adequacy of .densification	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Tenth	3	Identifying agricultural its -marketing basic -importance marketing functions in .Iraq	its -Agricultural marketing basic -importance marketing functions in .Iraq	The workshop lecture Laboratory summer	Written tests Quarterly exams final exams Daily evaluation

				training	
Eleventh	3	Identifying the selection of agricultural machinery -time analysis - balancing the size of the machine and the .available time	Selection of agricultural -time analysis -machinery lancing the size of the ba machine and the available .time	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Twelfth	3	Identifying the power needs of agricultural forms of -machinery .needs power -power	Agricultural machine power forms -power needs .power needs -	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Thirteenth	3	Learn about linear areas -programming methods for -of its use olving linear s programming .problems	-Linear programming methods for -areas of use solving linear .programming problems	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fourteenth	3	g the Identifyin technological map to determine the number -of machines organizing the .technological map	Technological map to determine the number of organizing the -machines .technological map	The workshop lecture Laboratory summer training	Written tests ly Quarter exams final exams Daily evaluation
Fifteenth	3	Learn about the application of economic evaluation criteria in agricultural .mechanization	Applying economic evaluation criteria in .agricultural mechanization	The workshop lecture Laboratory summer ningtra	Written tests Quarterly exams final exams Daily evaluation

5- Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

6- Learning and Teaching Resources

Required textbooks (curricular books, if any)	the economics of General principles of agricultural mechanization
Main references (sources)	agricultural A collection of books in the field of mechanization economics
Recommended books and references (scientific journals, reports...)	Check out websites in this field
Electronic References, Websites	the economics of General principles of

agricultural mechanization

Course Description Form

22. Course Name: Reclamation Machine & Equipment

23. Course Code: Second academic year / Second semester

24. Semester / Year: Second academic year / Second semester

25. Description Preparation Date: 2024/2/14

26. Available Attendance Forms: Attend a lecture

27. Number of Credit Hours (Total) / Number of Units (Total): 5 hours / 5 units

28. Course administrator's name (mention all, if more than one name):

Name: Mina M. Alwan

Email: mena.alwan@atu.edu.iq

29. Course Objectives

Course Objectives

- Enable the student to use reclamation land equipment and its maintenance.

30. Teaching and Learning Strategies

Strategy

- Enable the student to use the machine with correct methods and How to repair it .

31. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
The First	5	Learn about Tractors – tractor uses – types of tractors – Gradability.	Tractors – tractor uses – types of tractors – Gradability.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Second	5	Learn about Bull Dozers – uses – the difference between crawler and wheel Mounted bull dozers.	Bull Dozers – uses – the difference between crawler and wheel Mounted bull dozers.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Third	5	Types of equipment used – hydraulic system.	Types of equipment used – hydraulic system.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Fourth	5	Learn about the out put of bull dozer – repairs and maintenance.	The out put of bull dozer – repairs and maintenance.	The workshop lecture Laboratory summer trainings	Written tests Quarterly exams final exams Daily evaluation
Fifth	5	Learn about Front – end – loaders – uses – types and sizes – types of equipment.	Front – end – loaders – uses – types and sizes – types of equipment.	The workshop lecture laboratory summer training	Written tests Quarterly exams final exams

					Daily evaluation
Sixth	5	Learn about The out put of front – end – loaders – problems – maintenance.	The out put of front – end – loaders – problems – maintenance.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Seventh	5	Learn about Scrapers – types and sizes – operating Scraper- cycle time for Scraper.	Scrapers – types and sizes – operating Scraper- cycle time for Scraper.	Workshop The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Eighth	5	Learn about Types of equipment – hydraulic system – maintenance – problems.	Types of equipment – hydraulic system – maintenance – problems.	Workshop The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Ninth	5	Learn about Grader – types of grader – types of equipments – uses.	Grader – types of grader – types of equipments – uses.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Tenth	5	Learn about The out put of grader – hydraulic system – maintenance.	The out put of grader – hydraulic system – maintenance.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Eleventh	5	Learn about Excavating equipment – types of equipment – drag lines – the Output.	Excavating equipment – types of equipment – drag lines – the Output.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Twelfth	5	Learn about Hydraulic drag lines – the basic parts – hydraulic system – Maintenance.	Hydraulic drag lines – the basic parts – hydraulic system – Maintenance.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Thirteenth	5	Learn about A cable – controlled drag line – the basic parts – depth of cut – Maintenance.	A cable – controlled drag line – the basic parts – depth of cut – Maintenance.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fourteenth	5	Learn about Trenching machines – the basic parts – types of trenching machines.	Trenching machines – the basic parts – types of trenching machines.	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fifteenth	5	Learn about Hydraulic	Hydraulic system	The workshop	Written tests

	system of trenching machines – the out put – maintenance.	of trenching machines – the out put – maintenance.	lecture Laboratory summer training	Quarterly exams final exams Daily evaluation
--	---	--	--	--

32. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

33. Learning and Teaching Resources

Required textbooks (curricular books, if any)	reclamation machines General principles for and equipment
Main references (sources)	reclamation machines General principles for and equipment
Recommended books and references (scientific journals, reports...)	A collection of books in the field of reclamation machines and equipment
Electronic References, Websites	sites in this fieldCheck out web

Course Description Form

34. Course Name: Principle Machine Use

35. Course Code: Second academic year / Second semester

36. Semester / Year: Second academic year / Second semester

37. Description Preparation Date: 2024/2/14

38. Available Attendance Forms: Attend a lecture

39. Number of Credit Hours (Total) / Number of Units (Total): 5 hours / 5 units

40. Course administrator's name (mention all, if more than one name):

Name: Dr. Intisar M Khudair

Email: v Intisar.mohammed@atu.edu.iq

41. Course Objectives

Course Objectives	<ul style="list-style-type: none"> The student recognizes and learns the scientific and practical foundations on the basis of which machines are used in work fields and determines their numbers, sizes, capabilities, and the d required to complete the tasks he is assigned to perform perio .and operate
--------------------------	--

42. Teaching and Learning Strategies

Strategy	<ol style="list-style-type: none"> 1- Understands all forms of power and the units used in them, - and how power is formed in the machine. 2- power, knows the Understands the forms of exploiting - external forces affecting the tug, and knows the situations In which the coup occurs. 3- Learn and understand how to calculate fuel and oil - consumption when operating and how to conduct an inspection On the tug.
-----------------	---

43. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
The First	5	Identify the units of measurement for length, area, weight, and volume in the French and .English systems	Units of measurement for weight ,length, area and volume in the French and English .systems	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Second	5	Knowing the definition the law that -of power how to -governs power -each form of it calculate calculating the power consisting of the movement of a specific .body	The definition of the law -power that governs power how to calculate - it -each form of it calculates the power consisting of the movement of a	shop The work lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation

			.specific body		
The Third	5	Identify the definition of -each form of ability distinguish between the and the -forms of ability units used in them in both the French and .English systems	Definition of each -form of ability distinguishing between the forms units -of ability used in them in both the French and English .systems	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams evaluation Daily
The Fourth	5	Identifying the work the -done in the engine using -engine's power -the graphic power .using the braking power	Work done in the engine -engine use of -power use -graphic power .of braking power	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fifth	5	Learn how to invest the engine's power on the tow shaft and on the rear .drive shaft of the tow	How to invest the engine's power on the tow shaft and on the rear drive .ft of the towsha	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Sixth	5	Identifying the tug as a External -simple lever -forces affecting the tug Identifying the forces .and reactions	like a The tug is the -simple lever external forces -affecting the tug determining the forces and .reactions	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Seventh	5	Identify the neutrality of l forces acting the vertica on the tug and the -reaction to each force showing the algebraic sum of the moments in .each axis of the tug	Determine the vertical forces acting on the tug and the reaction to each force. State the algebraic sum of the moments in s of the each axi .tug	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Eighth	5	Identifying methods for determining the center of by -by weight -gravity finding the -suspension distance of the center of gravity from the rear axle and from the middle longitudinal -of the tow -and lateral balance slippage and factors affecting towing .efficiency	Methods of determining the -center of gravity by -by weight -suspension finding the distance of of the center gravity from the rear axle and from the middle of the longitudinal -tow and lateral balance slippage and - factors affecting .towing efficiency	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation

Ninth	5	Identifying the relationship of the center of gravity to overturning -in terms of its height the relationship of the effective tug width to .overturning	The relationship of the center of gravity to overturning in -terms of its height ship of the relation the effective tug width to .overturning	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
The Tenth	5	Identify the types of friction, normal pressure, coefficient of friction, factors determine the affecting friction, calculate the coefficient .of friction	-Types of friction -normal pressure coefficient of -friction determining the factors affecting -friction calculating the coefficient of .friction	The workshop lecture Laboratory training summer	Written tests Quarterly exams final exams Daily evaluation
Eleventh	5	Identify the definition of distance, time, speed, acceleration and the relationship between .them	Definition of distance, time, speed, acceleration and the relationship en thembetwe	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Twelfth	5	Identifying the -applications of the tug determining the distance and time of its parking starting from the is moment the parking .used	Applications -related to the tug determining the distance and time of its parking starting from the moment the .parking is used	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Thirteenth	5	Identify the definition of ground acceleration for -freely falling objects acceleration of the -deceleration relationship of -acceleration to mass acceleration of .acceleration	Definition of ground acceleration for freely falling -objects tion of accelera -deceleration relationship of acceleration to acceleration -mass .of acceleration	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fourteenth	5	Identify the use of fuel to fuel - produce power oil -consumption consumption in the .engine	Use of fuel to -produce power -fuel consumption oil consumption in .the engine	The workshop lecture Laboratory summer training	Written tests Quarterly exams final exams Daily evaluation
Fifteenth	5	tifying the most Iden	The most important	shop The work	Written tests

		important international -inspection centers procedures and -inspections on tug writing inspection .reports	international -inspection centers procedures and inspections on the writing -tug .inspection reports	lecture Laboratory summer training	Quarterly exams final exams Daily evaluation
--	--	---	---	--	---

44. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

45. Learning and Teaching Resources

Required textbooks (curricular books, if any)	using machines General principles for
Main references (sources)	using machines General principles for
Recommended books and references (scientific journals, reports...)	of basics of A collection of books in the field using machines
Electronic References, Websites	Check out websites in this field

Course Description Form

46. Course Name: Arabic language

47. Course Code: Second academic year / Second semester

48. Semester / Year: Second academic year / Second semester

49. Description Preparation Date: 2024/2/14

50. Available Attendance Forms: Attend a lecture

51. Number of Credit Hours (Total) / Number of Units (Total): 2 hours / 2 units

52. Course administrator's name (mention all, if more than one name):

Name: 2 D.hadeel alhmza

Email: hadeel.alhmza@atu.edu.iq

53. Course Objectives

Course Objectives	<ul style="list-style-type: none"> • The student reviews the basic rules of the Arabic language that he has previously studied in the previous stages, but in a long surah. • Gradually introduce the student to the technical terminology related to the specialty
--------------------------	---

54. Teaching and Learning Strategies

Strategy	<ul style="list-style-type: none"> • Lectures • Show videos • Homework assignments • Conducting dialogues between students
-----------------	--

55. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
The First	2	For the student to become familiar with the Quranic expression	The Quranic expression	a lecture	en testsWritt Quarterly exams final exams Daily evaluation
The Second	2	For the student to recognize Quranic expression and distinguish grammatical structures	Quranic expression grammatically in terms of sentence and text structure	a lecture	Written tests terly Quar exams final exams Daily evaluation
The Third	2	For the student to recognize Quranic expression and distinguish grammatical structure	Quranic expression rhetorically in terms of artistic impact	a lecture	Written tests Quarterly exams final exams y evaluationDai
The Fourth	2	For the student to become familiar with free poetry and know the pioneer of this poetry	the poet Badr Shaker Al-Sayyab	a lecture	Written tests Quarterly exams final exams Daily evaluation
Fifth	2	Analysis of Ahmed Matar's poetry	poet Ahmed Matar	a lecture	Written tests Quarterly exams final exams Daily evaluation

Sixth	2	Learn about the importance of dhaad, how the dhaad language was linked to the Arabic language	Arabic language, and why it was given this name as dhaad and dhaa	a lecture	Written tests Quarterly exams final exams Daily evaluation
Seventh	2	writing the hamza	Differentiating between the hamza and its types, the hamza of cutting and the hamza of connection	a lecture	Written tests Quarterly exams final exams valuationDaily e
Eighth	2	Punctuation marks	Definition of punctuation marks and what is the benefit of writing these marks within administrative speech or official books	a lecture	Written tests Quarterly exams final exams Daily evaluation
Ninth	2	and damma signs of parsing	Identify the original fatha, kasra	a lecture	Written tests Quarterly exams final exams Daily evaluation
The Tenth	2	Explaining the objects and distinguishing between each type according to its uses, such as the direct object, the direct object, the absolute object, the direct object, and the direct	object	a lecture	Written tests Quarterly exams final exams Daily evaluation
Eleventh	2	Make the student possess the ability to distinguish between when a number	Explaining the objects and distinguishing between each type according to its uses, such as the direct object, the direct object, the absolute object, the direct object, and the direct	a lecture	Written tests Quarterly exams final exams Daily evaluation
Twelfth	2	Make the student possess the ability to distinguish between when a number differs from its countable number in the singular and in the dual	Number	a lecture	Written tests Quarterly exams final exams Daily evaluation
Thirteenth	2	The student should be	Examples of	a lecture	Written tests

		familiar with writing a letter in classical Arabic, free of linguistic, grammatical, and spelling errors	administrative correspondence.		Quarterly exams final exams Daily evaluation
Fourteenth	2	The student should be familiar with writing a letter in classical Arabic, free of linguistic, grammatical, and spelling errors	Examples of administrative correspondence.	a lecture	Written tests Quarterly exams final exams Daily evaluation
Fifteenth	2	The student should be familiar with writing a letter in classical Arabic, free of linguistic, grammatical, and spelling errors	Examples of administrative correspondence.	a lecture	Written tests Quarterly exams final exams Daily evaluation

56. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

57. Learning and Teaching Resources

Required textbooks (curricular books, if any)	<ul style="list-style-type: none"> *1Ministry of Higher Education curriculum *General Arabic language for universities and technical institutes *Prepared by Dr. Safaa Kazem / Dr. Lama Muhammad Alfiyya Ibn Malik *Applied grammar / Dr. Khaled Abdel Aziz Meanings of grammar / Dr. Fadel Al-Samarrai *Dawaa Magazine, Journal of the College of Education *for Human Sciences, University of Babylon, Iraqi Scientific Academy *Al-Fasih Forum Archive
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

58. Course Name: English language

59. Course Code: Second academic year / Second semester

60. Semester / Year: Second academic year / Second semester

61. Description Preparation Date: 2024/2/14

62. Available Attendance Forms: Attend a lecture

63. Number of Credit Hours (Total) / Number of Units (Total): 2 hours / 2 units

64. Course administrator's name (mention all, if more than one name):

Name: mohand mosa

Email: mohaned.hamza@atu.edu.iq

65. Course Objectives

Course Objectives

• The student learns the simple basics of the English language, which the student needs to write with verb form

66. Teaching and Learning Strategies

Strategy

Lecture (in-class lesson)

67. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
The First	2	tenses of verbs – part of speech- social expressions	Learn verb tenses Learn the parts of speech Learn social expressions	a lecture	Written tests Quarterly exams final exams Daily evaluation
The Second	2	The way of we live– present tensesmaking conversion	Learn the present tense Learn to configure conversions	a lecture	Written tests Quarterly exams final exams Daily evaluation
The Third	2	It all went wrong– past tenses- irregular verbs – time expression	Learn the past tense Learn irregular verbs Learn time expressions	a lecture	Written tests Quarterly exams final exams Daily evaluation
The Fourth-Fifth	2	Let's go shopping– quantity – buying things – prices and2 shopping	Learn quantities Learn to buy things	a lecture	ten testsWrit Quarterly exams final exams Daily evaluation
Sixth Seventh	2	What do you want to do?- verb patterns shot verbs – how do you feel?	Learn verb patterns Learn hot verbs	a lecture	Written tests Quarterly exams final exams Daily evaluation
Eighth-ninth	2	what's it like- talking about townsd	Learn the present simple and present perfec	a lecture	Written tests Quarterly exams final exams

					Daily evaluation
The Tenth Eleventh	2	amous couplespresent perfect and past simple- past- p.p-short answer	Learn to talk about cities and directions	a lecture	Written tests Quarterly exams final exams Daily evaluation
Twelfth	2	People –great communication– information gapneighbors – informal letters	Learn time expressions	a lecture	Written tests rly examsQuarte final exams Daily evaluation
Thirteenth	2	amous couplespresent perfect and past simple- past- p.p-short answer	Learn greetings Learn informal letters	a lecture	Written tests Quarterly exams final exams Daily evaluation
Fourteenth	2	amous couplespresent perfect and past simple- past- p.p-short answer	Learn greetings Learn informal letters	a lecture	Written tests Quarterly exams final exams Daily evaluation
Fifteenth	2	People –great communication– information gapneighbors – informal letters	Learn greetings Learn informal letters	a lecture	Written tests Quarterly exams final exams Daily evaluation

68. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

69. Learning and Teaching Resources

Required textbooks (curricular books, if any)	New Headway per-intermidute
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	