

**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**

2024-2023

## **the introduction:**

The educational program is a coordinated and organized package of courses that include procedures and experiences organized in the form of study vocabulary, the main purpose of which is to build and refine the skills of graduates, making them qualified to meet the requirements of the labor market. It is reviewed and evaluated annually through internal or external audit procedures .and programs, such as the external examiner program

The academic program description provides a brief summary of the main features of the program and its courses, indicating the skills that students are working to acquire based on the objectives of the academic program. The importance of this description is evident because it represents the cornerstone in obtaining program accreditation, and the teaching staff participates in writing it under the supervision .of the scientific committees in the scientific departments

This guide, in its second version, includes a description of the academic program after updating the vocabulary and paragraphs of the previous guide in light of the developments and changes in the educational system in Iraq, which ,included a description of the academic program in its traditional form (annual semester) in addition to adopting the description of the academic program circulated pursuant to the letter of the Department of Studies TM3/2906 dated regarding programs that adopt the Bologna process as a basis for their 2023/3/5 .work

In this regard, we cannot but emphasize the importance of writing a description of academic programs and courses to ensure the smooth running of the educational .process

Ministry of Higher Education and Scientific Research  
Scientific supervision and evaluation device  
Department of Quality Assurance and Academic Accreditation

## Academic program description form for colleges and Institutes

2024 / 2023 For the year

University: Al-Furat Al-Awsat Technical University

College/Institute: Al-Musayyib Technical

Scientific Section: Plant Production Techniques

File filling date:

Signature:



Head of Department Name:

Dr. Mawaheb Medhat Hussein

Date 26/3/2024

Signature:



Scientific Associate Name:

Dr. Muhammad Hadi Sabry

Date 3/26/2024

The file is checked by : Department of Quality Assurance and University Performance

Director of the Director of the Quality Assurance and University Performance Department: M.M. Aws

Mahmoud Kreit

Date:

26/3/2024

Signature:



2024  
Appr. Dean  
أستاذ الدكتور  
جميلة عيسى حجازة

## Concepts and terms

Academic Program Description: The academic program description provides a brief summary of its vision, mission and objectives, including a precise description of the targeted learning outcomes according to specific learning strategies

Course Description: Provides a concise summary of the main characteristics of the course and the learning outcomes expected of the student, demonstrating whether the student has made the most of the learning opportunities available. It is derived from the programme description

Program Vision: An ambitious picture of the future of the academic program to be an advanced, inspiring, motivating, realistic and applicable program

Program mission: It briefly explains the objectives and activities required to achieve them, and it also identifies the program's development paths and directions

Program objectives: These are statements that describe what the academic program intends to achieve within a specific period of time and are measurable and observable

Curriculum structure: All courses/subjects included in the academic program according to the approved learning system (semester, year, Bologna track) whether they are required (ministry, university, college and scientific department) with the number of academic units

Learning outcomes: A consistent set of knowledge, skills and values acquired by the student after successfully completing the academic program. The learning outcomes for each course must be determined in a way that achieves the program's objectives

Teaching and learning strategies : These are the strategies used by the faculty member to develop the student's teaching and learning. They are plans that are

followed to achieve learning objectives. That is, they describe all classroom and extracurricular activities to achieve the learning outcomes of the program

### 1. Program vision

Expanding the base of education and its modern applications in the field of agriculture, a close relationship with various work sectors, and activating the role of scientific research in various development fields

### 2. Program message

The department adopts the dissemination of scientific and technical knowledge in the field of agricultural technologies to graduate national cadres at the educational level capable of absorbing modern technologies and supporting the scientific and technical development process to keep pace with global technologies and to fulfill the following

1. Openness to society in the field of agriculture and activating relations with the private sector in scientific consultations, training and technical qualification
2. Developing future plans to develop educational and training curricula and graduate technical cadres in the field of agricultural pest control
3. Focus on scientific research among academics in the department and the staff to develop plans to overcome problems in the fields in the field and in practice
4. Use of computer and Internet technologies in education and training

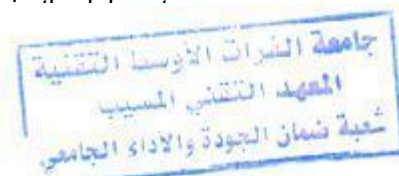
### 3. Program objectives

The department aims to prepare technical staff who are familiar with the technical knowledge in the fields of plant breeding and improvement, tissue culture propagation, field crop production greenhouse construction and cultivation with various crops, shade building, nursery production, fruit tree and ornamental plant propagation, garden design and engineering, disease, fungal, insect and weed control, beehive construction, beekeeping, honey production, agricultural field management and provision of their requirements

:Graduate job description

:The graduate of this major is qualified to perform the following tasks

1. Working in the field of plant tissue cult
2. Working in the field of plant breeding :



3. Working in the field of midwife production and propagation of fruit trees, forests and ornamental plants
4. Working in the field of protected agriculture in greenhouses, plastic houses and tunnels
5. Working in the field of designing and engineering gardens and planting them with various plants
6. Working in the field of beekeeping, apiary management and honey production
7. Work in the field of field crop production and marketing
8. Work in the field of plant protection and agricultural pest control
9. Working in the field of agricultural field management and cost and profit calculation
10. .Management of grain silo laboratories, testing the purity of seeds and how to grade them

#### 4. Program accreditation

nothing

#### 5. Other external influences

nothing

#### 6. Program Structure

* comments	percentage	Study unit	Number of courses	Program Structure
	%100	130	30	Institutional Requirements
	%100	130	30	College Requirements
	%100	130	30	Department Requirements
	Completed	Completed	1	Summer training
				Other

.Notes may include whether the course is basic or optional \*

<b>7. Program Description</b>				
<b>Credit hours</b>		<b>Course name</b>	<b>Course code</b>	<b>Year/Level</b>
<b>practical</b>	<b>theoretical</b>			<b>First academic year</b>
3	2	Winter field crops		Autumn semester
3	2	Winter vegetable crops		
3	1	Forests		
2	1	Plant protection		
3	1	General soil		
2	2	Agricultural tractors and equipment		
2	1	Animal production		
3	2	Perennial fruit production		
2	1	Calculator applications		
	2	Democracy and human rights		
	2	English language		
3	2	Summer field crops		Spring semester
3	2	Summer vegetable crops		
3	2	Perennial fruit production		
3	1	Nurseries		
3	1	General insects		
3	1	Statistics and planning experiments		
2	1	Farm management		
2	1	Calculator applications		
3	2	Protected agriculture		Second academic year, fall semester
2	2	Plant breeding		
3	1	Tissue culture		
2	2	Seed production		
3	2	Deciduous fruit production		
3	1	Irrigation and salt		
2	2	Plant diseases		
2		Graduation research project		

2	1	Calculator applications		
3	2	Protected agriculture		
	2	English language		
	1	Baath Party Crimes		
3	2	Summer field crops		Spring semester
3	2	Summer vegetable crops		
3	1	Nurseries		
3	1	General insects		
3	1	Statistics and planning experiments		
2	1	Farm management		
2	1	Calculator applications		

8. Expected learning outcomes of the program	
know I don't	
	Building and constructing greenhouses and plastic tunnels, planting various –1 .vegetable plants, and producing ornamental and nursery plants . Breeding and improving plant varieties, producing hybrids and preserving breeds – 2
Skills	
	,Cultivation of fields with horticultural crops and other crops, production of seedlings – .storage and preservation of fruits .Adopting biological, organic and mechanical control to eliminate diseases and fungi – Design and installation of sprinkler and drip irrigation systems in greenhouses and – .agricultural fields
Values	
	Oral tests, daily tests, monthly written tests, semester exams, final exams

9. Teaching and learning strategies
Practical and theoretical lectures, laboratory, scientific films, agricultural facility, scientific ) ( visits, systematic field training, summer training

**10. Evaluation methods**

(Oral tests, daily tests, monthly written tests, semester exams, final exams ).

**11. Faculty**

**Faculty members**

Faculty preparation		Special requirements/skills (if any)		Specialization		Academic Rank
lecturer	angel			private	general	
	2			Plant diseases	Bio-resistance	.Mr
	1			Plant propagation and improvement	Plant production techniques	assistant professor
	2			Plant propagation and improvement	Plant production techniques	Teacher
	3			Plant propagation and improvement decoration + and landscaping	Plant production techniques	Assistant Professor

## **Professional development**

### **Orientation of new faculty members**

- 1- .Commitment to the work schedule and tasks assigned to them
- 2- Teaching and the ability to deliver information to the student efficiently
- 3- Preparing teaching materials
- 4- Teamwork

### **Professional development for faculty members**

- 1- Research activity
- 2- . Participation in specialized conferences and seminars
- 3- .Participation in scientific and practical activities
- 4- Contributing to scientific and research development
- 5- .Active participation in the committees assigned to it in the department and the institute

## **12. Acceptance Criteria**

### **Central acceptance**

## **13. The most important sources of information about the program**

- 1- Scientific methodological books**
- 2- Scientific research and studies**
- 3- The Internet**
- 4- Scientific journals**

## **14. Program development plan**

- 1- Holding educational programs through educational supervision committees to guide students during their years of study**
- 2- Holding workshops to train faculty members**
- 3- Reviewing programs and courses and working on developing them according to the requirements of the labor market and the development of modern science and technology**

Program Skills Chart															
Required learning outcomes of the program												Essential or ?optional	Course name	Course code	Year/Level
Values				Skills				knowledge							
A4	A3	A2	A1	B4	B3	B2	B1	A4	A3	A2	A1				
											•	essential	Winter field crops	First academic year Autumn semester	
						•					•	essential	Winter vegetable crops		
					•						•	essential	Forests		
				•							•	essential	Plant protection		
			•								•	essential	General soil		
		•									•	essential	Agricultural tractors and equipment		
		•									•	essential	Animal production		
										•		essential	democracy		

		•									•	essential	Calculator applications		
					•							essential	English language		
		•			•							essential	Summer field crops		Spring semester
		•				•					•	essential	Summer vegetable crops		
		•				•					•	essential	Perennial fruit production		
											•	essential	Nurseries		
											•	essential	General insects		
											•	essential	Statistics and planning experiments		
											•	essential	Farm management		
											•	essential	Calculator applications		
											•	essential	Protected agriculture		Second ,academic year fall semester
		•				•				•		essential	Plant breeding		

		•						•		•		essential	Tissue culture		
		•				•				•		essential	Seed production		
										•		essential	Deciduous fruit production		
	•					•				•		essential	Irrigation and salt		
		•						•		•		essential	Plant diseases		
								•				essential	Baath crimes		
										•		essential	Graduation research project		
		•						•			•		Calculator applications		
		•						•					Protected agriculture		
						•							English language		
		•						•					Summer field crops		Spring semester
		•						•					Summer vegetable crops		
			•					•					Perennial fruit production		

			•					•			•		Nurseries		
			•					•			•		General insects		
		•					•				•		Statistics and planning experiments		
		•					•				•		Farm management		
		•					•			•			Calculator applications		

- **.Please tick the boxes corresponding to the individual learning outcomes of the programme being assessed**

## Course Description Form

### Course Description

This course description provides a concise summary of the main features of the course and the learning outcomes expected of the student, demonstrating whether the student has made the most of the learning opportunities available. It must be linked to the programme description

Al-Musayyab Technical Institute	<b>1. Educational institution</b>
Department of Plant Production Technologies	<b>2. Scientific Department / Center</b>
Protected cultivation	<b>3. Course Name/Code</b>
The lecture	<b>4. Available attendance forms</b>
quarterly	<b>5. Chapter/Year</b>
75 hour	<b>6. Number of study hours (total)</b>
2024/28/2	<b>Date of preparation of this .7 description</b>
D. Oras Mohsen Kazem	<b>Name of the course administrator .8</b>
<b>Course Objectives .8</b>	
1- .The student will be able to know the basics of establishing and building greenhouses	
2- .The student will be able to prepare and set up houses for agriculture	
3- The student will have the ability to produce seedlings and seedlings and plant them in .greenhouses	
4- The student will have full knowledge of the processes of breeding, pruning and control of .cultivated plants	
5- The student will have the ability to manage the agricultural project and calculate the cost of .production and marketing	

**Teaching, learning and assessment strategies**

**A- Cognitive objectives**

**A1- Protected agriculture**

**. B - Course specific skill objectives**

**B1 - Establishing and building greenhouses and plastic tunnels**

**B2 - Preparing and equipping houses for agriculture**

**B3 - Production of nurseries and seedlings and planting them in greenhouses**

**B4- Agricultural project management and production and marketing cost calculation**

**Teaching and learning methods**

**(Lecture, laboratory, methodical training, summer training)**

**Evaluation methods**

**(Oral exams, written exams, semester exams, final exams, daily assessment)**

**C- Emotional and value-based goals**

**.A1- Establishing greenhouses is the main pillar of protected agriculture**

**.A2- Growing vegetable crops out of season, such as growing summer vegetables in winter in greenhouses**

**.A3- Providing suitable environmental conditions for plant growth by operating heating and cooling devices**

**.A4- Introducing hydroponic farming programs in greenhouses and producing strawberries, mushrooms  
.ornamental plants and fruits**

**Teaching and learning methods**

**,Practical and theoretical lectures, laboratory, scientific films, agricultural facility, scientific visits)  
(systematic field training, summer training**

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**Evaluation methods**

**(Oral exams, written exams, semester exams, final exams, daily assessment)**

**.transferable skills (other skills related to employability and personal development)**

**.D1- Introducing organic farming programs and organic production of plants grown in greenhouses**

**.D2- Optimal utilization of protected agriculture by following the summer agriculture system in greenhouses**

**D3- Growing leafy vegetables and legumes in greenhouses**

**D4- Production of nurseries for green plants and propagation of tree seedlings and ornamental plants**

## 10. Course structure

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	Watches	The week
Written exam	The lecture	Production in protected environment	The student will be able to identify the importance of production in the protected .environment	5=3+2 hours	1
Written exam	The lecture	Design and construction of greenhouses	The student will be able to understand the design of .greenhouses	=	2
Written exam	The lecture	Design of basins and tunnels	The student will be able to understand the design of .basins and tunnels	=	3
Written exam	The lecture	Providing environmental conditions	The student will be able to identify the provision of .environmental conditions	=	4
Written exam	The lecture	Methods of controlling electronic devices heating and cooling	The student will be able to identify electronic heating .and cooling devices	=	5
Written exam	The lecture	Vegetable seedling production	The student will be able to know the production of .vegetable seedlings	=	6
Practical evaluation	is The lecture .practical	Ornamental seedlings production	The student will be able to know the production of .ornamental seedlings	=	7
Practical evaluation	is The lecture .practical	Growing some plants of the nightshade family	The student will be able to learn how to grow some plants of the nightshade .family	=	8
Practical evaluation	is The lecture .practical	Growing some plants of the cucurbitaceae family	The student will be able to learn about the cultivation of some plants of the .cucurbitaceae family	=	9
Practical evaluation	is The lecture .practical	Summer farming system	The student will be able to know the summer farming .system	=	10
Practical evaluation	is The lecture .practical	Mushroom cultivation of all kinds	The student will be able to know the types of .mushroom cultivation	=	11
Practical evaluation	is The lecture .practical	Strawberry Planting	The student will be able to learn how to grow .strawberry plants	=	12

Practical evaluation	is The lecture ,practical	Hydroponic system	The student will be able to .know the hydroponic system	=	13
Written exam	The lecture	Organic farming system	The student will be able to know the organic farming .system	=	14
Written exam	The lecture	Intercropping and vertical farming system	The student will be able to know the intercropping and .vertical farming system	=	15

<b>11. The structure of the decision</b>	
<b>,Protected Agriculture Methodological Book Course Educational Kit</b>	<b>Required textbooks -1</b>
<b>Textbooks taught in corresponding colleges and universities</b>	<b>Main references (sources) -2</b>
<b>Foreign and Arabic references on protected agriculture</b>	<b>) A- Recommended books and references ( .scientific journals, reports, etc</b>
<b>Searching websites in agricultural sciences</b>	<b>...B - Electronic references, websites</b>

<b>12. Course Evaluation</b>
<b>By distributing the grade out of 100 according to the tasks assigned to the student, such as .daily preparation, daily, oral, monthly and written exams, reports, etc</b>

<b>Learning and teaching resources .13</b>	
√	<b>Curriculum books, if any</b>
√	<b>Main References..Sources</b>
√	<b>Supporting books and references .recommended by scientific journals. Reports</b>
√	<b>Electronic references websites</b>

## Course Description Form

### Course Description

This course description provides a concise summary of the main characteristics of the course and the learning outcomes expected of the student, demonstrating whether he has made the most of the learning opportunities available and must be linked to the program class

Al-Musayyab Technical Institute	7. Educational institution
Department of Plant Production Technologies	Scientific Department / Center
Tissue Culture & Plant Cells	Course Name/Code
The lecture	Available attendance forms
Fall Semester / Second Stage	Chapter/Year
60 In the theoretical and practical chapter	Number of study hours (total)
2024/2/	Date this description was prepared
<b>Course Objectives .8</b>	
Granting the student a diploma in the theoretical and practical aspects, which serves to prepare a graduate with a prestigious level and a place in the workplace	
Course name: Intisar Abdullah Toman	

### Teaching, learning and assessment strategies

#### A- Cognitive objectives

.A1- Teaching students the importance of plant tissue culture

.Introducing students to the role of growth regulators in cell division and differentiation in tissue culture -2

.Enabling the student to know how to deal with laboratory materials and equipment -3

<p><b>. B - Course specific skill objectives</b></p> <p><b>.B1 - Providing the student with the skills of tissue culture propagation of plants</b></p> <p><b>Training the student on manufacturing agricultural media and tissue culture propagation of plants to -2</b> <b>.achieve high productivity</b></p> <p><b>Providing the student with the necessary skills to conduct laboratory tests related to tissue culture and -3</b> <b>.how to give appropriate scientific judgments</b></p>
<p><b>Teaching and learning methods</b></p>
<p><b>Giving scientific and theoretical lectures through display screens, PowerPoint, slides, microscopes, and experiments examining plant samples, using various laboratory devices and equipment, and a wooden .canopy</b></p>
<p><b>Evaluation methods</b></p>
<p><b>(Oral exams, written exams, semester exams, final exams, daily assessment)</b></p>
<p><b>C- Emotional and value-based goals</b></p> <p><b>.A1- Enabling the student to apply theoretical information in a practical way</b></p> <p><b>.Developing the national spirit among students to increase production in terms of quantity and quality -2</b></p> <p><b>,Instilling the concept of community service and the best way to deal with the simple segments of society -3</b> <b>.farmers and peasants</b></p> <p><b>Developing the ethics of the agricultural engineering profession among students by following the correct -4</b> <b>.professional behavior</b></p>
<p><b>Teaching and learning methods</b></p>
<p><b>,Practical and theoretical lectures, laboratory, scientific films, agricultural facility, scientific visits)</b> <b>(systematic field training, summer training</b></p>

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<b>Evaluation methods</b>
<b>(Oral exams, written exams, semester exams, final exams, daily assessment)</b>
<b>.transferable skills (other skills related to employability and personal development)</b> <b>D1- Entering programs</b>

### 13. Course structure

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	Watches	The week
Written exam	The lecture And a practical lesson	Common terms in the subject of plant cell and tissue culture - apical meristem - callus - cell solution - nutrient medium - protoplast - cell differentiation - cell fusion - anther culture - cell preservation by freezing	Cognitive And my skills	4=3+1 hours	1
Written exam	The lecture	The importance of plant cell and tissue culture in increasing agricultural production	Cognitive And my skills	=	2
Written exam	The lecture	The role of growth regulators in cell division and differentiation	Cognitive And my skills	=	3
Written exam	The lecture	The importance of tissue culture in plant breeding and improvement (1)	Cognitive And my skills	=	4
Written exam	The lecture	The importance of tissue culture in plant breeding and improvement (2)	Cognitive And my skills	=	5
Written exam	The lecture	The importance of tissue culture in the production of medical drugs (1)	Cognitive And my skills	=	6
Practical evaluation	The is lecture .practical	The importance of tissue culture in the production of medical drugs (2)	Cognitive And my skills	=	7
Practical evaluation	The is lecture .practical	Tissue culture of roots	Cognitive And my skills	=	8
Practical evaluation	The is lecture .practical	Callus cultivation and production	Cognitive And my skills	=	9
Practical evaluation	The is lecture .practical	Production and growth of cell suspension	Cognitive And my skills	=	10

Practical evaluation	The is lecture .practical	Preservation of plant tissues by freezing	Cognitive And my skills	=	11
Listening and asking questions	The is lecture .practical	Production of virus-free plants	Cognitive And my skills	=	12
Practical evaluation	The is lecture .practical	Use of root-knot bacteria in tissue culture	Cognitive And my skills	=	13
Written exam	The lecture	Growth measurements of transplanted organs and tissues	Cognitive And my skills	=	14
Practical evaluation	The lecture practical	Preparing agricultural environments	Cognitive And my skills	=	15

14. The structure of the decision	
Protected Agriculture Methodological Book, Course Educational Kit	Required textbooks -1
Textbooks taught in corresponding colleges and universities	Main references (sources) -2
Foreign and Arabic references on tissue culture	) A- Recommended books and references ( .scientific journals, reports, etc
Searching websites in agricultural sciences	...B - Electronic references, websites

15. Course Evaluation	
By distributing the grade out of 100 according to the tasks assigned to the student, such as .daily preparation, daily, oral, monthly and written exams, reports, etc	
Learning and teaching resources .13	
	Curriculum books, if any
	Main References..Sources

	<b>Supporting books and references .recommended by scientific journals. Reports</b>
	<b>Electronic references websites</b>

## Course Description Form

### Course Description

**This course description provides a concise summary of the main characteristics of the course and the learning outcomes expected of the student, demonstrating whether he has made the most of the learning opportunities available. It must be linked to the programme description**

Al-Musayyab Technical Institute	<b>1- Educational institution</b>
Department of Plant Production Technologies	<b>2- Scientific Department / Center</b>
Winter vegetable crops /Winter vegetable crops	<b>3- Course Name/Code</b>
My presence	<b>4- Available attendance forms</b>
Fall Semester - First Stage	<b>5- Chapter/Year</b>
hours in theoretical and practical 75 classes	<b>6- Number of study hours (total)</b>
2024/28/2	<b>Date of preparation of this description .7</b>
<b>Course Objectives .8</b>	
<b>Granting the student a diploma in the theoretical and practical aspects, which serves to prepare a graduate with a prestigious level and introduce him to the practical arena</b>	
<b>Course name</b>	
<b>Dr. Marwa Hassan Jarallah</b>	

## Teaching, learning and assessment strategies -9

### A- Cognitive objectives

A1- Teaching students how to deal with winter vegetable crops so that they have modern scientific specifications, methods of managing them, and the factors affecting their productivity

A2- Introducing students to how to develop winter vegetable crops so that they become able to describe and serve them in their various types

A3- Enabling the student to know how to deal with laboratory materials and equipment

### B - Course specific skill objectives

B1 - Providing the student with skills to apply scientific methods regarding the management of winter vegetable crops

B2- Training the student to produce winter vegetable crops to achieve high productivity

B3- Providing the student with the necessary skills to conduct laboratory tests related to vegetables and soil and how to give appropriate scientific judgments

### C- Emotional and value-based goals

A1- Enabling the student to apply theoretical information in a practical way

A2- Developing the national spirit among students to increase production in terms of quantity and quality

A3- Instilling the concept of community service and the best way to deal with simple segments of society such as farmers and peasants

transferable skills (other skills related to employability and personal development)

D1- Entering programs

## Teaching and learning methods -10

(Lecture, laboratory, methodical training, summer training)

Giving theoretical and practical lectures through display screens, PowerPoint, slides, microscopes, plant sample examination experiments, and using various laboratory devices and equipment and a wooden canopy

## Evaluation methods -11

(Oral exams, written exams, semester exams, final exams, daily assessment)

- Conducting daily quick tests/Quiz
- Conducting monthly exams
- Conducting midterm and final exams

## 12- Course structure

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	Watches	The week
Questions and Answers	Lecture and practical lesson	Vegetable science Economic and nutritional importance	My knowledge and skills	5=3+2 hours	1
Written exam	Lecture and practical lesson	Geographical distribution in Iraq and the Arab world vegetable production - problems and proposed solutions	My knowledge and skills	5=3+2 hours	
Asking questions	Lecture and practical lesson	Methods of dividing vegetables - Botanical division - According to the growth cycle - According to the part used for consumption - Thermal division - Division according to the method of cultivation - Areas of origin of vegetables	My knowledge and skills	5=3+2 hours	2
Listening and asking questions	Lecture and practical lesson	The effect of environmental factors on the growth and - development of vegetables climate factors - soil factors	My knowledge and skills	5=3+2 hours	3
Practical ,exercise presentation and group work	Lecture and practical lesson	Vegetable crops reproduction - sexual reproduction - asexual reproduction - good seed - characteristics - germination - dormancy seed treatments	My knowledge and skills	5=3+2 hours	4
Practical ,exercise presentation and group work	Lecture and practical lesson	Vegetable seedling production - definition of nursery - advantages and - disadvantages of nursery Reasons for variation in seedling tolerance - Agricultural environments Definition of - acclimatization Physiological changes of acclimatization	My knowledge and skills	5=3+2 hours	5
Mini-lesson Discussion Practical	Lecture and	Production of the cabbage crop - the original homeland and importance	My knowledge and skills	5=3+2 hours	6

exercise and working groups	practical lesson	of cabbage - suitable - climate and soil reproduction - planting date and method - service process			
,Case study practical exercises and work groups	Lecture and practical lesson	- Cauliflower production original habitat and - importance of cauliflower - suitable climate and soil reproduction - planting date and method - service process	My knowledge and skills	5=3+2 hours	7
Listening and giving ,questions practical exercises and work groups	Lecture and practical lesson	,Production of radish turnip, and garden cress crops - location and - importance of the crop - suitable climate and soil reproduction - planting date and method - service process	My knowledge and skills	5=3+2 hours	8
Listening ,questions practical exercises and group work	Lecture and practical lesson	- Production of fava beans peas - fenugreek - original home and importance of the crop - suitable climate and - soil - reproduction - planting date and method service process	My knowledge and skills	5=3+2 hours	9
Group work questions	Lecture and practical lesson	- Onion crop production original habitat and - importance of the crop - suitable climate and soil reproduction - planting date and method - service process - early flowering in onions - doubling in onions green onion production -	My knowledge and skills	5=3+2 hours	10
Mini-lesson work groups	Lecture and practical lesson	Production of garlic and leek crops - original habitat and importance of the crop - suitable climate and soil - reproduction - planting date and method - service process	My knowledge and skills	5=3+2 hours	11
Practical exercise and work groups	Lecture and practical lesson	- Production of Swiss chard beetroot - spinach - original habitat and importance of the crop - suitable climate - and soil - reproduction - planting date and method service process - flowers	My knowledge and skills	5=3+2 hours	12

Asking questions	Lecture and practical lesson	Production of carrot and lettuce crops - original habitat and importance of the crop - suitable climate - and soil - reproduction - planting date and method service process - flowering in lettuce	My knowledge and skills	5=3+2 hours	13
Practical exercise questions	Lecture and practical lesson	- Production of celery parsley - dill - original habitat and importance of the crop - suitable climate - and soil - reproduction - planting date and method service process	My knowledge and skills	5=3+2 hours	14
Practical exercise questions	Lecture and practical lesson	Production of vegetables expected to be cultivated in Iraq: Broccoli - Brussels - sprouts - Watercress - Endive - Onions - Chef Importance and original home - Planting Date and Method - Service Operations	My knowledge and skills	5=3+2 hours	15

#### Curriculum development plan -13

.Providing the possibility of academic support in organizing field visits -

Providing an appropriate classroom environment that enables the teacher to diversify -  
.teaching strategies

Providing information technology in the campus library -

Hosting experts from outside the institute or from the work environment for which they -  
are preparing to benefit from their expertise in developing the course according to the  
.actual need of the labor market

#### Infrastructure -14

Winter Vegetable Crops Textbook

Required textbooks -1

Supporting resources for each course

Main references (sources) -2

Scientific journals, as well as research, theses and dissertations of professors in the same .specialization	A- Recommended books and ,references ( scientific journals ( .reports, etc
<a href="http://www.google.com">www.google.com</a> website	...B - Electronic references, websites

### Course Evaluation -15

By distributing the grade out of 100 according to the tasks assigned to the student, such as .daily preparation, daily, oral, monthly and written exams, reports, etc

### Learning and teaching resources .16

	Curriculum books, if any
	Main References..Sources
	Supporting books and references .recommended by scientific journals. Reports
	Electronic references websites

### Course Description Form

#### Course Description

This course description provides a concise summary of the main characteristics of the course and the learning outcomes expected of the student, demonstrating whether he has made the most of the .learning opportunities available. It must be linked to the programme description

Al-Musayyab Technical Institute	7- Educational institution
Department of Plant Production Technologies	8- / Scientific Department Center
Nurseries and forests /Nurseries and Forestries	9- Course Name/Code
My presence	10- Available attendance forms
Fall Semester - First Stage	11- Chapter/Year

hours in theoretical and practical classes 60	<b>12- Number of study hours (total)</b>
2024/28/2	<b>Date of preparation of this .7 description</b>
<b>Course Objectives .8</b>	
<b>Granting the student a diploma in the theoretical and practical aspects, which serves to prepare a .graduate with a prestigious level and introduce him to the practical arena</b>	
<b>Course name</b>	
<b>Dr. Marwa Hassan Jarallah</b>	

<b>Teaching, learning and assessment strategies -9</b>
<b>A- Cognitive objectives</b>
<b>A1- Teaching students how to deal with nurseries and forests so that they meet modern scientific .specifications, management methods, and factors affecting their productivity</b>
<b>A2- Introducing students to how to develop nurseries and forests so that they become able to describe and . serve them in their various types</b>
<b>. A3- Enabling the student to know how to deal with laboratory materials and equipment</b>
<b>. B - Course specific skill objectives</b>
<b>B1 - Providing the student with skills to apply scientific methods regarding the management of winter .vegetable crops</b>
<b>. B2- Training the student to produce winter vegetable crops to achieve high productivity</b>
<b>B3- Providing the student with the necessary skills to conduct laboratory tests related to vegetables and soil .and how to give appropriate scientific judgments</b>
<b>C- Emotional and value-based goals</b>
<b>A1- The student acquires skills in applying scientific methods, especially those related to nursery and forest .management, so that he becomes able to propagate them using modern methods, such as plant tissue culture</b>
<b>.A2- Training the student on nursery and forest production to achieve high productivity</b>

**A3- Providing the student with the necessary skills to conduct laboratory tests related to nurseries, forests and soil, and how to give appropriate scientific judgments**

**Teaching and learning methods -10**

**Giving theoretical and practical lectures through display screens, PowerPoint, slides, microscopes, plant sample examination experiments, and using various laboratory devices and equipment and a wooden canopy**

**Evaluation methods -11**

- ) Conducting daily quick tests Quiz .(
- .Conducting monthly exams
- .Conducting midterm and final exams

**13- Course structure**

<b>Evaluation method</b>	<b>Teaching method</b>	<b>Unit name/topic</b>	<b>Required learning outcomes</b>	<b>The week Watches</b>	
Questions and Answers	Lecture and practical lesson	Nurseries - Importance of - nurseries - Types of nurseries Test	My knowledge and skills	4=3+1 hours	1
Questions and answers practical lesson	Lecture and practical lesson	Nursery site - preparation and planning - some definitions such ,as seedlings, trees, shrubs forests and forest cultivation	My knowledge and skills	4=3+1 hours	
Asking questions	Lecture and practical lesson	Plant Propagation - Sexual and - Asexual Reproduction Advantages and Disadvantages of Both Methods	My knowledge and skills	4=3+1 hours	2
Listening and asking questions	Lecture and practical lesson	- Propagation by seeds germination requirements - seed viability - environmental and internal factors - methods of planting seeds - methods of - planting in a permanent place agricultural media	My knowledge and skills	4=3+1 hours	3
Practical ,exercise	Lecture and	Vegetative propagation methods - Propagation by cuttings - Types of cuttings - Types of stem cuttings - Origin of culms	My knowledge and skills	4=3+1 hours	4

presentation and group work	practical lesson	in hardwood cuttings - Factors affecting root formation			
Practical ,exercise presentation and group work	Lecture and practical lesson	Auxins – Types of Auxins Methods of Auxins used in stem – cuttings Kayering Types of - layers - Types of Earth layers Air layers - Light - Forms of light - Transporters - Plants and transport mechanisms.	My knowledge and skills	4=3+1 hours	5
Mini-lesson Discussion Practical exercise and working groups	Lecture and practical lesson	Training - Skill and training - objective - Parts of the plant .Framework - Training methods	My knowledge and skills	4=3+1 hours	6
,Case study practical exercises and work groups	Lecture and practical lesson	Central classes - modified center .open center - modern methods -	My knowledge and skills	4=3+1 hours	7
Listening and giving ,questions practical exercises and work groups	Lecture and practical lesson	- Tissue culture - micropropagation stages - selection of the plant part - sterilization of the explants establishment stage - nutrient - medium - multiplication stage rooting stage - acclimatization .stage	My knowledge and skills	4=3+1 hours	8
Listening ,questions practical exercises and group work	Lecture and practical lesson	– Forest – Introduction – Characteristics of trees Distribution of forest in a word Tropical and subtropical – forests – Temperate – Cold zone forests – Temperate – Warm zone forests – Gallery forests and Nambus forests	My knowledge and skills	4=3+1 hours	9
Group work questions	Lecture and practical lesson	Forests in Iraq - Natural forests according to density - Open - forests - Medium-density forests Dense forests - according to - species - Oak forests - Pine forests - River forests - Artificial .forests	My knowledge and skills	4=3+1 hours	10
Mini-lesson work groups	Lecture and practical lesson	A scientific visit to one of the .forest chains	My knowledge and skills	4=3+1 hours	11
Practical exercise and work groups	Lecture and	Forest advantages – productive advantages – protection	My knowledge and skills	4=3+1 hours	12

	practical lesson	advantages – replication .advantages			
Asking questions	Lecture and practical lesson	- Primary advantages - wood .rubber - waste paper...etc - Secondary advantages - bark - production of suberin - insulation - for nutrition alcoholic production - aromatic perfumes - medicines - soap - .extraction - gum - resin and glue	My knowledge and skills	4=3+1 hours	13
Practical exercise questions	Lecture and practical lesson	- Vegetation - forests - Macaois - tundra - savanna - steppe - desert - tree growth stages - seedling stage - seedling stage column stage - young woody .stage - maturity stage	My knowledge and skills	4=3+1 hours	14
Practical exercise questions	Lecture and practical lesson	Pure Foresta characters of pure forest- Natural cases for forming a pure forest- Mixed forest- Equal mixture- Mixture -rules- Creating a mixed forest -Cayer's rule- Mixture shapes -Equal mixture- Linear mixture . Strip mixture- Mixture groups	My knowledge and skills	4=3+1 hours	15

<b>Curriculum development plan -13</b>
.Providing the possibility of academic support in organizing field visits -  Providing an appropriate classroom environment that enables the teacher to diversify - .teaching strategies  Providing information technology in the campus library -  Hosting experts from outside the institute or from the work environment for which they - are preparing to benefit from their expertise in developing the course according to the .actual need of the labor market

<b>Infrastructure -14</b>	
Nursery and Forestry Textbook	Required textbooks -1
Supporting resources for each course	Main references (sources) -2

Scientific journals, as well as research, theses and dissertations of professors in the same .specialization	A- Recommended books and ,references ( scientific journals ( .reports, etc
<a href="http://www.google.com">www.google.com</a> website	...B - Electronic references, websites

### Course Evaluation -15

By distributing the grade out of 100 according to the tasks assigned to the student, such as .daily preparation, daily, oral, monthly and written exams, reports, etc

### Learning and teaching resources .16

	Curriculum books, if any
	Main References..Sources
	Supporting books and references .recommended by scientific journals. Reports
	Electronic references websites

## Course Description Form

### Course Description

This course description provides a concise summary of the main characteristics of the course and the learning outcomes expected of the student, demonstrating whether he has made the most of the learning opportunities available. It must be .linked to the programme description

Al-Musayyab Technical Institute

13- Educational institution

Department of Plant Production Technologies	14- Scientific Department / Center
Plant breeding and improvement /Plant Breeding and improvement	15- Course Name/Code
My presence	16- Available attendance forms
Fall Semester - Second Stage	17- Chapter/Year
hours in theoretical and practical classes 60	18- Number of study hours (total)
2024/28/2	Date of preparation of this .7 description
Course Objectives .8	
,Granting the student a diploma in the theoretical and practical aspects which serves to prepare a graduate with a prestigious level and introduce .him to the practical arena	
Course name	
Dr. Marwa Hassan Jarallah	

Teaching, learning and assessment strategies -9
<b>A- Cognitive objectives</b>
A1- Teaching students how to choose the best method of propagation and cultivation .for each crop

A2- Introducing students to how to develop service operations during growing . seasons so that they become able to describe and serve them in their various types

A3- Enabling the student to know how to deal with laboratory materials and . equipment

#### **B - Course specific skill objectives**

.B1 - Providing the student with skills to apply scientific methods in plant breeding

B2- Training the student to produce crops using appropriate breeding methods to . achieve high productivity

B3- Providing the student with the necessary skills to conduct laboratory tests .related to plants and soil and how to give appropriate scientific judgments

#### **C- Emotional and value-based goals**

.A1- Enabling the student to apply theoretical information in a practical way

A2- Developing the national spirit among students to increase production in terms of .quantity and quality

A3- Instilling the concept of community service and the best way to deal with .simple segments of society, such as farmers and peasants

A4- Developing the ethics of the agricultural engineering profession among students .by following the correct professional behavior

#### **.transferable skills (other skills related to employability and personal development)**

D1- Entering programs

#### **Teaching and learning methods -10**

,Giving theoretical and practical lectures through display screens, PowerPoint, slides microscopes, plant sample examination experiments, and using various laboratory .devices and equipment and a wooden canopy

#### **Evaluation methods -11**

- ) Conducting daily quick testsQuiz .(
- .Conducting monthly exams
- .Conducting midterm and final exams

14- Course structure

<b>Evaluation method</b>	<b>Teaching method</b>	<b>Unit name/topic</b>	<b>Required learning outcomes</b>	<b>Watches</b>	<b>The week</b>
<b>Questions and Answers</b>	<b>Lecture and practical lesson</b>	<b>- Introduction Development of Plant Breeding and Improvement</b>	<b>My knowledge and skills</b>	<b>4= 2+2 hours</b>	<b>1</b>
<b>practical mini lesson</b>	<b>Lecture and practical lesson</b>		<b>My knowledge and skills</b>	<b>4= 2+2 hours</b>	
<b>Asking questions</b>	<b>Lecture and practical lesson</b>	<b>Objectives of plant breeding and : improvement ,Improving production , improving quality breeding for disease resistance, breeding .for special traits</b>	<b>My knowledge and skills</b>	<b>4= 2+2 hours</b>	<b>2</b>
<b>Listening and asking questions</b>	<b>Lecture and practical lesson</b>	<b>Plant cell - its - components - nucleus .chromosomes</b>	<b>My knowledge and skills</b>	<b>4=2+2 hours</b>	<b>3</b>
<b>Practical ,exercise presentation and group work</b>	<b>Lecture and practical lesson</b>	<b>- Types of cell division - normal division meiosis - double .fertilization</b>	<b>My knowledge and skills</b>	<b>4= 2+2 hours</b>	<b>4</b>
<b>Practical ,exercise presentation and group work</b>	<b>Lecture and practical lesson</b>	<b>- Pollination in plants self-pollination and its importance - cross- pollination and its .importance</b>	<b>My knowledge and skills</b>	<b>4= 2+2 hours</b>	<b>5</b>

<b>Mini-lesson Discussion Practical exercise and working groups</b>	<b>Lecture and practical lesson</b>	<b>Mendel's laws in plant breeding and genetics the first law - the law - of segregation - the second law - the law of .free assortment</b>	<b>My knowledge and skills</b>	<b>4= 2+2 hours</b>	<b>6</b>
<b>,Case study practical exercises and work groups</b>	<b>Lecture and practical lesson</b>	<b>Genetic changes - their importance - their origin - their .development</b>	<b>My knowledge and skills</b>	<b>4= 2+2 hours</b>	<b>7</b>
<b>Listening and giving ,questions practical exercises and work groups</b>	<b>Lecture and practical lesson</b>	<b>Qualitative traits and their relationship to - genetic factors Quantitative traits and their relationship to .genetic factors</b>	<b>My knowledge and skills</b>	<b>4=2+2 hours</b>	<b>8</b>
<b>Listening ,questions practical exercises and group work</b>	<b>Lecture and practical lesson</b>	<b>The relationship between the inheritance of traits and environmental conditions - the interaction between genetics and environment in breeding and plant improvement</b>	<b>My knowledge and skills</b>	<b>4= 2+2 hours</b>	<b>9</b>
<b>Group work questions</b>	<b>Lecture and practical lesson</b>	<b>Methods of plant breeding and improvement - method of saving from similar - environments - acclimatization .evaluation</b>	<b>My knowledge and skills</b>	<b>4= 2+2 hours</b>	<b>10</b>
<b>Mini-lesson work groups</b>	<b>Lecture and practical lesson</b>	<b>- Election methods - individual election - quantitative election .cumulative election</b>	<b>My knowledge and skills</b>	<b>4=2+2 hours</b>	<b>11</b>

<b>Practical exercise and work groups</b>	<b>Lecture and practical lesson</b>	<b>Hybridization method - single hybridization - double hybridization multiple hybridization</b>	<b>My knowledge and skills</b>	<b>4= 2+2 hours</b>	<b>12</b>
<b>Asking questions</b>	<b>Lecture and practical lesson</b>	<b>- Genetic mutations - physical mutagens .chemical mutagens</b>	<b>My knowledge and skills</b>	<b>4= 2+2 hours</b>	<b>13</b>
<b>Practical exercise questions</b>	<b>Lecture and practical lesson</b>	<b>Genetics and development of plant disease resistant varieties</b>	<b>My knowledge and skills</b>	<b>4= 2+2 hours</b>	<b>14</b>
<b>Practical exercise questions</b>	<b>Lecture and practical lesson</b>	<b>Induction of - cytoplasmic sterility its importance - its use in plant breeding</b>	<b>My knowledge and skills</b>	<b>4=2+2 hours</b>	<b>15</b>

#### Curriculum development plan -13

Providing the possibility of academic support in organizing field - .visits  
 Providing an appropriate classroom environment that enables the - .teacher to diversify teaching strategies  
 Providing information technology in the campus library -  
 Hosting experts from outside the institute or from the work - environment for which they are preparing to benefit from their expertise in developing the course according to the actual need of .the labor market

#### Infrastructure -14

Methodological book for plant breeding and improvement	Required textbooks -1
Supporting resources for each course	Main references (sources) -2

,Scientific journals, as well as research theses and dissertations of professors .in the same specialization	A- Recommended books and ,references ( scientific journals ( .reports, etc
<a href="http://www.google.com">www.google.com</a> website	,B - Electronic references ...websites

#### Course Evaluation -15

By distributing the grade out of 100 according to the tasks assigned to the ,student, such as daily preparation, daily, oral, monthly and written exams .reports, etc

#### Learning and teaching resources .16

	Curriculum books, if any
	Main References..Sources
	Supporting books and references .recommended by scientific journals .Reports
	Electronic references websites

## Course Description Form

### Course Description

**This course description provides a concise summary of the main characteristics of the course and the learning outcomes expected of the student, demonstrating whether he has made the most of the learning opportunities available. They must be linked to the .programme description**

Al-Musayyab Technical Institute	8. Educational institution
Department of Plant Production Technologies	9. Scientific Department / Center
Winterfield crops	10. Course Name/Code
My presence	11. Available attendance forms
Semester / Fall First Stage	12. Chapter/Year
hours per semester, theoretical and practical 75	13. Number of study hours (total)
2024/28/2	Date of preparation of this .7 description
Course objectives : To grant the student a diploma in the theoretical and practical .8 aspects, which serves to prepare a graduate with a distinguished level and introduce .him to the scientific arena	
5-	

: Name of the course administrator .8

### Teaching, learning and assessment strategies

#### A- Cognitive objectives

A1- Teaching students how to deal with winter field crops so that they have modern scientific specifications, methods of managing them, and the factors affecting their productivity

A2- Introducing students to how to develop winter field crops so that they become able to describe and serve them in various types

A3- Enabling the student to know how to deal with laboratory equipment and materials

#### B - Course specific skill objectives

B1 - Providing the student with skills to apply scientific methods in winter crop management

B2- Training the student to produce winter field crops to achieve high productivity

B3- Providing the student with the necessary skills to conduct laboratory tests related to crops and soil and how to give appropriate scientific judgments

#### Teaching and learning methods

(Lecture, laboratory, methodical training, summer training)

,Giving scientific and theoretical lectures through display screens, PowerPoint, slides microscopes, plant sample examination experiments, and using various laboratory devices and equipment and a wooden canopy

## Evaluation methods

(Oral exams, written exams, semester exams, final exams, daily assessment)

### C- Emotional and value-based goals

- .A1- Enabling the student to apply theoretical information in a practical way
- A2- Developing the national spirit among students to increase production in terms of .quantity and quality
- A3- Instilling the concept of community service and the best way to deal with the .simple segments of the peasant and farming community
- A4- Developing the professional ethics of agricultural engineers among students by .following the correct professional behavior

### Teaching and learning methods

**Practical and theoretical lectures, laboratory, scientific films, agricultural facility, scientific) ( visits, systematic field training, summer training**

## Evaluation methods

(Oral exams, written exams, semester exams, final exams, daily assessment)

**.transferable skills (other skills related to employability and personal development)**

D1- Entering programs

## 16. Course structure

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	Watches	The week
Written exam	The lecture	Economic importance of winter field crops	My knowledge and skills	5=3+2 hours	1
Written exam	The lecture	,Problems of winter crop production classification of winter crops according to .planting season and use	My knowledge and skills	=	2
Written exam	The lecture	The process of preparing and equipping the land for agriculture (the importance of ,carrying it out, the types of plows used (smoothing and leveling the machines used	My knowledge and skills	=	3
Written exam	The lecture	Methods of planting and serving crops scattering, lines, groves, advantages and) (disadvantages of each method	My knowledge and skills	=	4
Written exam	The lecture	Wheat crop production, economic importance, suitable environmental ,conditions, planting date, seed quantity fertilization, irrigation, growth, maturity .and harvest stages	My knowledge and skills	=	5
Written exam	The lecture	Wheat grain composition, stages of grain maturity, type of seed, the difference between fine and coarse wheat, and steps .for producing wheat flour	My knowledge and skills	=	6
Practical evaluation	The lecture is .practical	Barley crop production, economic importance, suitable environmental ,conditions, planting date, planting method ,seed quantity, fertilization, irrigation .growth, maturity and harvest stages	My knowledge and skills	=	7
Practical evaluation	The lecture is .practical	Production of the Shelmi crop, economic importance, origin, suitable environmental ,conditions, planting date, planting method sowing and fertilization, irrigation, stages of maturity and harvest, preparing seeds .for storage and processing	My knowledge and skills	=	8

Practical evaluation	The lecture is .practical	Production of wheat crop, economic importance, environmental conditions planting date, planting method, seed quantity, fertilization, irrigation, stages of .crop growth	My knowledge and skills	=	9
Practical evaluation	The lecture is .practical	Production of sugar beet and sugar cane ,crops, economic importance ,environmental conditions, planting date ,planting method, seed quantity ,fertilization, irrigation, crop growth stages .maturity, harvesting and harvesting	My knowledge and skills	=	10
Practical evaluation	The lecture is .practical	Qualitative characteristics of sugarcane .and beet and stages of sugar production	My knowledge and skills	=	11
Practical evaluation	The lecture practical	Broad bean production, economic importance, planting date, planting ,method, seed quantity, fertilization irrigation, ripening and harvesting	My knowledge and skills	=	12
Practical evaluation	The lecture is .practical	,Production of chickpeas and lentils economic importance, environmental ,conditions, planting date, planting method .seed quantity, fertilization, irrigation	My knowledge and skills	=	13
Written exam	The lecture	,Flax and safflower crop production economic importance, environmental ,conditions, planting date, planting method .fertilization, irrigation, seed quantity		=	14
Written exam	The lecture	,Agricultural cycles for winter crops definition of agricultural cycles, types of cycles, how to design agricultural cycles .with various examples		=	15

17. The structure of the decision	
Protected Agriculture Methodological Book, Course Educational Kit	Required textbooks -1

Textbooks taught in corresponding colleges and universities	Main references (sources) -2
Foreign and Arabic references on winter field crops	A- Recommended books and references ( scientific journals ( .reports, etc
Searching websites in agricultural sciences	...B - Electronic references, websites

### 18.Course Evaluation

By distributing the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly and written exams .reports, etc

### Learning and teaching resources .13

	Curriculum books, if any
	Main References..Sources
	Supporting books and references .recommended by scientific journals .Reports
	Electronic references websites

## Course Description Form

### Course Description

**This course description provides a concise summary of the main characteristics of the course and the learning outcomes expected of the student, demonstrating whether he has made the most of the learning opportunities available. They must be linked to the .programme description**

Al-Musayyab Technical Institute	14. Educational institution
Department of Plant Production Technologies	15. Scientific Department / Center
Agriculturemachines equipment's	16. Course Name/Code
My presence	17. Available attendance forms
Semester / Fall First Stage	18. Chapter/Year
hours per semester, theoretical and practical 75	19. Number of study hours (total)
2024/28/2	Date of preparation of this .7 description
Course objectives : To grant the student a diploma in the theoretical and practical .8 aspects, which serves to prepare a graduate with a distinguished level and introduce .him to the scientific arena	
6-	
7-	
8-	
9-	
: Name of the course supervisor .8 Ms. Mina	

Teaching, learning and assessment strategies

### A- Cognitive objectives

A1- Teaching students to understand the agricultural tractor and training them to use it in the field

A2- Introducing students to the main parts of the tractor, their importance, and how each part works

A3- Enabling the student to know how to deal with the devices and materials in the tugboat

### B - Course specific skill objectives

B1 - Providing the student with the skills of maintaining the tugboat

B2- Training the student to understand the operation of the towing systems and identify faults to achieve high productivity

B3- Providing the student with the necessary skills to conduct general tests related to the tug and soil and how to give appropriate scientific judgments

### Teaching and learning methods

(Lecture, laboratory, methodical training, summer training)

,Giving scientific and theoretical lectures through display screens, PowerPoint, slides, microscopes, plant sample examination experiments, and using various laboratory devices and equipment and a wooden canopy

### Evaluation methods

(Oral exams, written exams, semester exams, final exams, daily assessment)

### C- Emotional and value-based goals

A1- Enabling the student to apply theoretical information in a practical way

A2- Developing the national spirit among students to increase production in terms of quantity and quality

A3- Instilling the concept of community service and the best way to deal with the .simple segments of the peasant and farming community

A4- Developing the professional ethics of agricultural engineers among students by .following the correct professional behavior

#### Teaching and learning methods

**Practical and theoretical lectures, laboratory, scientific films, agricultural facility, scientific) ( visits, systematic field training, summer training**

#### Evaluation methods

(Oral exams, written exams, semester exams, final exams, daily assessment)

#### .transferable skills (other skills related to employability and personal development)

D1- Entering programs

## 19. Course structure

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	Watches	The week
Written exam	The lecture	Knowing the importance of agricultural mechanization - types of tractors - public .safety	My knowledge and skills	5=3+2 hours	1
Written exam	The lecture	Study the main parts of the tractor and the ,function of each part - transmission devices .their parts and function	My knowledge and skills	=	2
Written exam	The lecture	Study of the towing system (fuel and cooling system, parts and importance), faults .and maintenance	My knowledge and skills	=	3
Written exam	The lecture	Study of the lubrication system - air purification system - exhaust system and .muffler - their parts and function	My knowledge and skills	=	4
Written exam	The lecture	Study of the electrical system - parts - the benefit of each part, its function and .maintenance	My knowledge and skills	=	5
Written exam	The lecture	Knowing the devices and means of exploiting power in the tugboat: the hydraulic device - the traction shaft - the rear drive shaftPTO .the drive pulley -	My knowledge and skills	=	6
Practical evaluation	The is lecture .practical	Study of the structure of the tugboat - parts - and benefits - steering system - adjusters .steering device in the tugboat	My knowledge and skills	=	7
Practical evaluation	The is lecture .practical	Knowing the types of plows - the importance of the plowing process - the .characteristics of good plowing	My knowledge and skills	=	8
Practical evaluation	The is lecture .practical	Study of rotary-reversible ploughs - rotary-reversible disc ploughs - their use - their parts - their maintenance and methods of .ploughing with them	My knowledge and skills	=	9
Practical evaluation	The is lecture .practical	- Study of chisel ploughs - rotary ploughs .subsoil plough - their uses - their parts	My knowledge and skills	=	10

Practical evaluation	The is lecture .practical	– Knowledge of soil smoothing equipment its use – its parts – leveling, planning and channel digging machines – their .importance and uses	My knowledge and skills	=	11
Practical evaluation	The is lecture .practical	Study of mechanized agriculture - fertilizer and seed spreading machine - its parts - its .types - its calibration	My knowledge and skills	=	12
Practical evaluation	The is lecture .practical	Study of the fertilized seed in rows - its parts .its field calibration - laboratory calibration -	My knowledge and skills	=	13
Written exam	The lecture	- Study of agricultural machinery in lines .potato cultivation - types - calibration		=	14
Written exam	The lecture	Fodder cutting machines - their types - their parts - the combined harvester - its operation .the main groups of the harvester -		=	15

20. Course structure	
Protected Agriculture Methodological Book, Course Educational Kit	Required textbooks -1
Textbooks taught in corresponding colleges and universities	Main references (sources) -2
Foreign and Arabic references on winter field crops	A- Recommended books and references (.scientific journals, reports, etc)
Searching websites in agricultural sciences	...B - Electronic references, websites

## 21.Course Evaluation

By distributing the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly and written exams reports, etc

## Learning and teaching resources .22

	Curriculum books, if any
	Main References..Sources
	Supporting books and references .recommended by scientific journals .Reports
	Electronic references websites

## Course Description Form

### Course Description

**This course description provides a concise summary of the main characteristics of the course and the learning outcomes expected of the student, demonstrating whether he has made the most of the learning opportunities available. They must be linked to the programme description**

Al-Musayyab Technical Institute	1- Educational institution
Department of Plant Production Technologies	2- / Scientific Department Center
General soil	3- Course Name/Code
The lecture	4- Available attendance forms
quarterly	5- Chapter/Year

60	6- Number of study hours (total)
2024/28/2	Date of preparation of this .7 description
Course objectives : To grant the student a diploma in the theoretical and practical .8 aspects, which will serve as a graduate with a distinguished level and introduce him .to the practical arena	
Name of the course supervisor : Mr. Hamed Abdel Zaid .8	

### Teaching, learning and assessment strategies

#### A- Cognitive objectives

A1- Teaching the student how to study the physical properties of soil such as .density, moisture, mechanical analysis, etc

,Introducing the student to the chemical properties of soil, such as its strength -2 .lime, gypsum, etc

Enabling the student to know how to deal with medical materials and devices

#### B - Course specific skill objectives

B1 - Providing the student with skills to study the morphological .characteristics of soil

Training the student to know the relationship between soil and plant and -2 .achieve high productivity

Providing the student with the necessary skills to conduct laboratory tests -3 .related to plants and soil and how to give appropriate scientific judgments

#### Teaching and learning methods -9

(Lecture, laboratory, methodical training, summer training)

**Practical and theoretical lectures, laboratory, scientific films, agricultural)**  
**( facility, scientific visits, systematic field training, summer training**

Evaluation methods

(Oral exams, written exams, semester exams, final exams, daily assessment)

### **C- Emotional and value-based goals**

.A1- Enabling the student to apply theoretical information in a practical way

Developing the national spirit among students to increase production in terms of -2  
.quantity and quality

Instilling the concept of community service and the best way to deal with the -3  
.simple segments of society, farmers and peasants

Developing the ethics of the agricultural engineering profession among students -4  
.by following the correct professional behavior

**.transferable skills (other skills related to employability and personal development)**

D1- Entering programs

10- Course structure

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	Watches	The week
Questions and answers	The lecture	Soil science - its branches - its importance and the goal of soil analysis	My knowledge and skills	4=3+1 hours	1
Written exam	The lecture	Some morphological properties of soil	My knowledge and skills	=	2
Written exam	The lecture	Physical properties of soil and their relationship to plant growth	My knowledge and skills	=	3
Written exam	The lecture	Physical properties of soil and their relationship to plant growth	My knowledge and skills	=	4
Written exam	The lecture	Physical properties of soil and their relationship to plant growth	My knowledge and skills	=	5
Written exam	The lecture	soil water	My knowledge and skills	=	6
Practical evaluation	The lecture practical	Soil temperature and soil air	My knowledge and skills	=	7
Group work questions	The lecture	Organic colloids	My knowledge and skills	=	8
Practical evaluation	The lecture practical	clay minerals	My knowledge and skills	=	9

Practical evaluation	The lecture And a practical lesson	Soil cation exchange capacity	My knowledge and skills	=	10
Practical evaluation	and Lecture practical lesson	Electrical conductivity of soil Ec	My knowledge and skills	=	11
Practical evaluation	The lecture practical	soil salinity	My knowledge and skills	=	12
Practical evaluation	The lecture practical	Nutrients and their importance to plants	My knowledge and skills	=	13
Written exam	The lecture And a practical lesson	Lime and gypsum in soil	My knowledge and skills	=	14
Written exam	The lecture	Lime and gypsum in soil	My knowledge and skills	=	15

11- The structure of the decision	
Protected Agriculture Methodological Book, Course Educational Kit	Required textbooks -1
Textbooks taught in corresponding colleges and universities	Main references (sources) -2

Foreign and Arabic references on protected agriculture	A- Recommended books and ,references ( scientific journals ( .reports, etc
Search websites in agricultural sciences	...B - Electronic references, websites

<b>12- Course Evaluation</b>
By distributing the grade out of 100 according to the tasks assigned to the ,student, such as daily preparation, daily, oral, monthly and written exams .reports, etc

<b>13- Learning and teaching resources</b>	
	Curriculum books, if any
	Main References..Sources
	Supporting books and references .recommended by scientific journals .Reports
	Electronic references websites

**sustainable fruit production**

<b>1- Course name</b>
sustainable fruit production
<b>2 Course code -</b>
<b>3 Semester / Year -</b>
/ Semester2023 -2024
<b>4 Date of preparation of this description -</b>
2024/
<b>5 Available forms of attendance -</b>

<b>compulsory</b>					
6 Number of study hours (total) / Number of units (total) -					
140/140					
7 Name of the course supervisor (if more than one name is mentioned) -					
:the name					
8 Course objectives .					
<b>Providing the student with information that enables him to identify On the most important types Trees Permanent Successful in Iraq and how to perform the most important operations The service is running, it is orchards Fruit Permanent Knowing the environmental factors affecting .perennial fruit trees and orchard cultivation systems</b>				<b>Subject objectives</b>	
9 Strategy T Education and Learning .					
<b>Education Strategies</b> It includes a set of general rules and outlines that concern the means of achieving the desired goals of teaching through advance planning and - setting future plans for each of (presentation - coordination - training discussion) and organizing the classroom environment and classroom .management for the purpose of developing students' education  <b>Learning strategies</b> It includes the behaviors and procedures that students engage in that are intended to influence how they are able to process information and learn different tasks. Learning is strategic when students are aware of the specific skills and strategies (procedures and methods) that they .use in learning				<b>Strategy</b>	
10 Course Structure .					
<b>road Evaluation</b>	<b>road Learning</b>	<b>Name of the unit or topic</b>	<b>Required learning outcomes</b>	<b>Watches</b>	<b>The week</b>
exam	a lecture	,Habitat, distribution economic and ,nutritional importance .citrus classification	Subject understanding and comprehension  To apply it correctly	2	the first

exam	a lecture	,Environmental factors climate conditions, soil conditions and their impact on citrus .cultivation in Iraq	Subject understanding and comprehension  To apply it correctly	2	the second
exam	a lecture	and falling process -Fruits (June fall, pre (harvest fall	Subject understanding and comprehension  To apply it correctly	2	the third
+ Report Evaluation	a lecture	Citrus cultivation and ,production (varieties ,rootstocks, propagation ,pruning, fertilization	Understanding the subject and the ability to apply it effectively	2	Fourth

		.Irrigation, harvest	correct		
exam	a lecture	Citrus cultivation and ,production) varieties ,origins, propagation ,pruning, fertilization .irrigation, harvesting	Subject understanding and comprehension  To apply it correctly	2	Fifth
exam	a lecture	,Environmental factors climate conditions, soil conditions and their impact .on palm cultivation in Iraq	Subject understanding and comprehension  To apply it correctly	2	Sixth
exam	a lecture	,Vegetative propagation care of seedlings, planting in the nursery, dates of planting in the permanent place and its service	Subject understanding and comprehension  To apply it correctly	2	Seventh
exam	a lecture	Palm tree service ,operations, fertilization ,irrigation, pruning consecration , fruit thinning, removal of	Subject understanding and comprehension  To apply it correctly	2	The eighth

		shoots, palm .mechanization			
exam	a lecture	,Metasinia phenomenon stages of fruit development, pollen extraction, pollination process, review of the ten commercial varieties in the .country	Subject understanding and comprehension  To apply it correctly	2	Ninth
Repo +rt evalu ation	a lecture	,Olive, habitat, distribution economic and nutritional .importance	Subject understanding and comprehension  To apply it correctly	2	tenth
exam	a lecture	Environmental factors, the ,phenomenon of buoyancy its causes, and ways to .overcome it	Subject understanding and comprehension  To apply it correctly	2	elevant h
exam	a lecture	,Banana, habitat distribution, economic and ,nutritional importance ,environmental conditions .reproduction, varieties	Subject understanding and comprehension  To apply it correctly	2	the second ten
exam	a lecture	,Sea buckthorn, loquat habitat, spread, economic ,and nutritional importance ,environmental factors .reproduction, varieties	Subject understanding and comprehension  To apply it correctly	2	the third ten
exam	a lecture	,Mango, guava, habitat distribution, economic and ,nutritional importance ,environmental factors .reproduction, varieties	Subject understanding and comprehension  To apply it correctly	2	Fourth ten
exam	a lecture	.Scientific visit	Subject understanding and comprehension  To apply it correctly	2	fifteenth
11 Course Evaluation .					

The student's evaluation in the educational program depends entirely on daily preparation, daily, oral, monthly and written exams, and reports. Note that the passing grade is 50 : according to the following mechanism , %

1 ) The grade for the annual subjects is divided into two parts 50 effort and %50 ( final %

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**By the subject teacher and depends on the student's attendance, daily exams, homework and behavior .**

**Graduation for second year students depends on writing a scientific .research and discussion**

**Continuous monitoring of the student's attendance at the theoretical lecture and laboratory, as the student's absences are considered 10 % .of the total hours for that course**

#### 12 Learning and teaching resources .

Fruit production book - Soil and plant nutrition - Plant world book - Plant .biotechnology book	<b>Required textbooks (methodology if any)</b>
.First: peer-reviewed scientific journals .Second: Academic books .Third: Websites Fourth: Scientific encyclopedias .Fifth: Scientific research	<b>Main References (Sources)</b>
Curriculum books - study bags - laboratories .summer training -	<b>Recommended supporting books and .... references (scientific journals, reports)</b>
. Agricultural websites	<b>Electronic references, websites</b>

## Statistics and planning experiments

<b>1- Course name</b>	
Statistics and planning experiments	
<b>2 Course code -</b>	
<b>3 Semester / Year -</b>	
quarterly	
<b>4 Date of preparation of this description -</b>	
2024	
<b>5 Available forms of attendance -</b>	
compulsory	
<b>6 Number of study hours (total) / Number of units (total) -</b>	
140/140	
<b>7 Name of the course supervisor (if more than one name is mentioned) -</b>	
M.M.Dhu Al-Fiqar Ali	
<b>8 Course objectives .</b>	
Providing the student with information that enables him to know ,how to implement agricultural experiments in the field, take data .classify it, and prepare it for statistical analysis	Subject objectives
<b>9 Teaching and learning strategies .</b>	
<p><b>Education Strategies</b></p> <p>It includes a set of general rules and outlines that concern the means of achieving the desired goals of teaching through advance planning and - setting future plans for each of (presentation - coordination - training discussion) and organizing the classroom environment and classroom .management for the purpose of developing students' education</p> <p><b>Learning strategies</b></p> <p>It includes the behaviors and procedures that students engage in that are intended to influence how they are able to process information and learn different tasks. Learning is strategic when students are aware of the specific skills and strategies (procedures and methods) that they .use in learning</p>	Strategy

10 Course Structure .

Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	Watches	The week
exam	a lecture	A historical overview , of statistics definitions and ,concepts (society , environment ,variable, observation data , sample, types of ( samples	Understanding the subject and being able to apply it correctly	1	the first
exam	a lecture	Data collection , data presentation, tabular , presentation graphical presentation	Understanding the subject and being able to apply it correctly	1	the second
exam	a lecture	Measures of central ,tendency : median mode, mean	Understanding the subject and being able to apply it correctly	1	the third
+ Report Evaluation	a lecture	Measures of ,dispersion: range variance, standard deviation	Understanding the subject and being able to apply it correctly	1	Fourth
exam	a lecture	Measures of dispersion: mean deviation, standard error, coefficient of variation	Understanding the subject and being able to apply it correctly	1	Fifth
exam	a lecture	simple linear correlation	Subject understanding and comprehension	1	Sixth

			To apply it correctly		
exam	a lecture	simple linear regression	Understanding the subject and being able to apply it correctly	1	Seventh

exam	a lecture	Planning agricultural experiments, scientific research, scientific research requirements and objectives	Understanding the subject and being able to apply it correctly	1	The eighth
exam	a lecture	Types of agricultural experiments, human requirements for ,agricultural experiments errors in agricultural experiments	Understanding the subject and being able to apply it correctly	1	Ninth
+ Report Evaluation	a lecture	Analysis of variance. The basic idea of analysis of variance. Using analysis of variance with .experimental designs	Understanding the subject and being able to apply it correctly	1	tenth
exam	a lecture	Types of experimental designs, choosing the ,appropriate design designing the perfect dinner	Understanding the subject and being able to apply it correctly	1	eleventh
exam	a lecture	Completely randomized design in case of unequal frequency	Understanding the subject and being able to apply it correctly	1	the second ten
exam	a lecture	Randomized complete block design	Understanding the subject and being able to apply it correctly	1	the third ten
exam	a lecture	Estimating missing value in a randomized complete block design	Understanding the subject and being able to apply it correctly	1	Fourth ten
exam	a lecture	Latin square design	Understanding the subject and being able to apply it correctly	1	fifteenth
11 Course Evaluation .					

The student's evaluation in the educational program depends entirely on daily preparation, daily, oral, monthly and written exams, and reports. Note that the passing grade is 50 :according to the following mechanism ,%

1 ) The grade for annual subjects is divided into two parts 50 effort and %50 :(final %

The evaluation is done by the subject teacher and depends on the student's \*  
.attendance, daily exams, homework, and behavior during the lecture

2 Graduation research for second-year students based on writing a scientific research -  
.and discussion

In addition to the continuous monitoring of the student's attendance at the theoretical lecture and laboratory, the student is considered not to have completed the course if his absences exceed 10 .of the total hours for that course %

12 Learning and teaching resources -

Basics of Plant Diseases Book - How to Become a Beekeeper Book - Soil Fertility and Plant Nutrition Book - Orchard Insects Book - Plant World Book - Plant Biotechnology Book

Required textbooks (methodology if (any

.First : peer-reviewed scientific journals  
.Second : Academic books  
.Third : Websites  
.Fourth : Scientific encyclopedias  
.Fifth : Scientific research

References (Sources)

- Curriculum books - study bags - laboratories  
.summer training

Recommended supporting books ,and references (scientific journals .... (reports

.Agricultural websites

references , websites

## Farm management

<b>1- Course name</b>	
Farm management	
<b>2 Course code -</b>	
<b>3 Semester / Year -</b>	
quarterly	
<b>4 Date of preparation of this description -</b>	
2024	
<b>5 Available forms of attendance -</b>	
compulsory	
<b>6 Number of study hours (total) / Number of units (total) -</b>	
140/140	
<b>7 Name of the course supervisor (if more than one name is mentioned) -</b>	
<b>8 Course objectives .</b>	
Providing the student with information that enables him to know farm costs, the theory of comparative costs, determining the level of production, planning and budgeting, managing production elements, and measures of economic efficiency of the farm	Subject objectives
<b>9 Teaching and learning strategies .</b>	
Education Strategies  It includes a set of general rules and outlines that concern the means of achieving the desired goals of teaching through advance planning and - setting future plans for each of (presentation - coordination - training discussion) and organizing the classroom environment and managing the classroom for the purpose of developing students' education	Strategy

**Learning strategies**

It includes the behaviors and procedures that students engage in that are intended to influence how they are able to process information and learn different tasks. Learning is strategic when students are aware of the specific skills and strategies (procedures and methods) that they use in learning

**10 Course Structure .**

<b>Evaluation method</b>	<b>road Learning</b>	<b>Name of the unit or topic</b>	<b>Required learning outcomes</b>	<b>Watches</b>	<b>The week</b>
exam	a lecture	Definitions of farm management and its objectives	Understanding the subject and being able to apply it correctly	1	the first
exam	a lecture	.Production costs	Understanding the subject and being able to apply it correctly	1	the second
exam	a lecture	Economic principles and rules Home used in farm management	Understanding the subject and being able to apply it correctly	1	the third
+ Report Evaluation	a lecture	A- The principle of .diminishing returns	Understanding the subject and being able to apply it correctly	1	Fourth
exam	a lecture	B - The principle of farm costs and the theory of comparative .costs	Understanding the subject and being able to apply it correctly	1	Fifth
exam	a lecture	C- The principle of determining the level of production. D- The principle of equal returns and the principle of .opportunity costs	Understanding the subject and being able to apply it correctly	1	Sixth
exam	a lecture	Replacement or substitution to reduce cost	Understanding the subject and	1	Seventh

			being able to apply it correctly		
exam	a lecture	Farm planning and .budgeting	Understanding the subject and being able to apply it correctly	1	The eighth
exam	a lecture	Farm management methods A - Complete .and partial plan	Understanding the subject and being able to apply it correctly	1	Ninth
+Report evaluation	a lecture	B - The method of substitution and replacement between projects	Understanding the subject and being able to apply it correctly	1	tenth
exam	a lecture	C- Direct comparison method. D- Partial .change method	Understanding the subject and being able to apply it correctly	1	eleventh
exam	a lecture	,Farm accounts extinction and methods of .calculating it	Understanding the subject and being able to apply it correctly	1	the second ten
exam	a lecture	Managing production elements with work efficiency and capital .management	Understanding the subject and being able to apply it correctly	1	the third ten
exam	a lecture	Economics of farm purchase and .valuation methods	Understanding the subject and being able to apply it correctly	1	Fourth ten
exam	a lecture	Farm economic efficiency measures and farm budgeting	Understanding the subject and being able to apply it correctly	1	fifteenth
11 Course Evaluation .					

The student's evaluation in the educational program depends entirely on daily preparation, daily, oral, monthly and written exams, and reports. Note that the passing grade is 50 : according to the following mechanism , %

1 ) The grade for annual subjects is divided into two parts 50 effort and %50 :(final %

,The evaluation is done by the subject teacher and depends on the student's attendance \*  
 .daily exams, homework, and behavior during the lecture

2 Graduation research for second-year students based on writing a scientific research -  
 .and discussion

In addition to the continuous monitoring of the student's attendance at the theoretical lecture and laboratory, the student is considered not to have completed the course if his absences exceed 10 .of the total hours for that course %

12 Learning and teaching resources -

**Basics of Plant Diseases Book - How to Become a Beekeeper Book - Soil Fertility and Plant Nutrition Book - Orchard Insects Book - Plant World Book - Plant .Biotechnology Book**

**Required textbooks (methodology if any)**

**.First: peer-reviewed scientific journals**  
**.Second: Academic books**  
**.Third: Websites**  
**.Fourth: Scientific encyclopedias**  
**.Fifth: Scientific research**

**Main References (Sources)**

Curriculum books - study bags - laboratories .summer training -	Recommended supporting books and .... references (scientific journals, reports)
.Agricultural websites	Electronic references, websites

### Deciduous fruit production

1. Course name	
<b>Deciduous fruit production</b>	
2. Course code	
3. Semester/Year	
<b>My quarter</b>	
4. Date of preparation of this description	
<b>2024</b>	
5. Available forms of attendance	
<b>compulsory</b>	
6. Number of study hours (total) / Number of units (total)	
140/140	
7. Name of the course supervisor (if more than one name is mentioned)	
8. Course objectives	
<b>Providing the student with information that enables him to know how to choose the best method of propagation and cultivation of each one and perform all service operations during the different growth seasons and all environmental conditions suitable for .producing trees economically</b>	<b>Subject objectives</b>
9. Teaching and learning strategies	

<p><b>Education Strategies</b></p> <p>It includes a set of general rules and outlines that concern the means of achieving the desired goals of teaching through advance planning and - setting future plans for each of (presentation - coordination - training discussion) and organizing the classroom environment and classroom .management for the purpose of developing students' education</p> <p><b>Learning strategies</b></p> <p>It includes the behaviors and procedures that students engage in that are intended to influence how they are able to process information and learn different tasks. Learning is strategic when students are aware of the specific skills and strategies (procedures and methods) that they use in .learning</p>	<p><b>Strategy</b></p>
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10. Course structure

road Evaluation	road Learning	Name of the unit or topic	Required learning outcomes	Watches	The week
exam	a lecture	The importance of fruits and methods of their classification, the economic and nutritional importance of deciduous fruits	Subject understanding and comprehension  To apply it correctly	2	the first
exam	a lecture	Geographical distribution of deciduous fruits in Iraq and the Arab world, the most important problems of fruit production in Iraq and the role of rest in buds	Subject understanding and comprehension  To apply it correctly	2	the second
exam	a lecture	Theoretical foundations for ,establishing new orchards including the selection of ,the appropriate plot of land its preparation and its .preparation for planting	Subject understanding and comprehension  To apply it correctly	2	the third

+ Report Evaluation	a lecture	Grapes - habitat and spread, geographical distribution, nutritional and economic value	Subject understanding and comprehension To apply it correctly	2	Fourth
exam	a lecture	Grapes - suitable environmental conditions (soil, climate), grape propagation, grape varieties	Subject understanding and comprehension To apply it correctly	2	Fifth
exam	a lecture	,Figs - Origin and spread nutritional and economic value, suitable climate and soil, varieties	Subject understanding and comprehension To apply it correctly	2	Sixth
exam	a lecture	Apple - Origin and distribution, nutritional ,and economic value ,suitable climate and soil varieties, propagation	Subject understanding and comprehension To apply it correctly	2	Seventh
exam	a lecture	Pear - and quince ,habitat and distribution nutritional and economic value, suitable environmental conditions ,(soil, climate) ,propagation methods varieties	Subject understanding and comprehension To apply it correctly	2	The eighth
exam	a lecture	Peaches - habitat and distribution, nutritional value, environmental ,suitability, peach groups ,propagation methods varieties	Subject understanding and comprehension To apply it correctly	2	Ninth
+Report evaluation	a lecture	Apricot - habitat and distribution, nutritional ,and economic value	Subject understanding	2	tenth

		,suitable environment propagation, varieties	and comprehension To apply it correctly		
exam	a lecture	,Pear - original habitat nutritional and economic value, suitable ,environment, propagation varieties	Subject understanding and comprehension To apply it correctly	2	eleventh
exam	a lecture	- Almonds and cherries original habitat, nutritional ,and economic value cherry clusters, suitable ,environment, propagation varieties	Subject understanding and comprehension To apply it correctly	2	the second ten
exam	a lecture	Pomegranate and persimmon - original habitat, nutritional and economic value, suitable ,environment, propagation varieties	Subject understanding and comprehension To apply it correctly	2	the third ten
exam	a lecture	Pistachios, walnuts and - pecans their original habitat, nutritional and economic value, suitable ,environment, propagation varieties	Subject understanding and comprehension To apply it correctly	2	Fourth ten
exam	a lecture	Modern trends in fruit production - the importance of hormones and their areas of use, the use of mechanization in orchards, the most important operations required after harvesting	Subject understanding and comprehension To apply it correctly	2	fifteenth
<b>11. Course Evaluation</b>					

The student's evaluation in the educational program depends entirely on daily preparation, daily, oral, monthly and written exams, and reports. Note that the passing grade is 50. %

12. Learning and teaching resources	
Basics of Plant Diseases Book - How to Become a Beekeeper Book - Soil Fertility and Plant Nutrition Book - Orchard Insects Book - Plant World Book - Plant .Biotechnology Book	Required textbooks (methodology if any)
.First: peer-reviewed scientific journals .Second: Academic books .Third: Websites .Fourth: Scientific encyclopedias .Fifth: Scientific research	References (Sources)
- Curriculum books - study bags .laboratories - summer training	Recommended supporting books and .... references (scientific journals, reports)
. Agricultural websites	references , websites

### Organic farming

1- Course name
Organic farming
2 Course code -
3 Semester / Year -
My quarter
4 Date of preparation of this description -
2024

<b>5 Available forms of attendance -</b>	
compulsory	
<b>6 Number of study hours (total) / Number of units (total) -</b>	
140/140	
<b>7 Name of the course supervisor (if more than one name is mentioned) -</b>	
<b>8 Course objectives .</b>	
<p>Providing the student with information enable him to know How to Teaching And training Students are trained in the manufacture -: and use of organic fertilizers from animal and plant waste, which is agriculture to fertilize the soil instead of chemical fertilizers, in order to produce agricultural products such as crops, vegetables and fruits free from diseases and pesticide pollution, in addition to .not polluting the environment, whether soil or water</p>	Subject objectives
<b>9 Teaching and learning strategies .</b>	
<p><b>Education Strategies</b></p> <p>It includes a set of general rules and outlines that concern the means of achieving the desired goals of teaching through advance planning and - setting future plans for each of (presentation - coordination - training discussion) and organizing the classroom environment and classroom .management for the purpose of developing students' education</p> <p><b>Learning strategies</b></p> <p>It includes the behaviors and procedures that students engage in that are intended to influence how they are able to process information and learn different tasks. Learning is strategic when students are aware of the specific skills and strategies (procedures and methods) that they use in .learning</p>	Strategy
<b>10 Course Structure .</b>	

<b>Evaluation method</b>	<b>road Learning</b>	<b>Name of the unit or topic</b>	<b>Required learning outcomes</b>	<b>Watches</b>	<b>The week</b>
<b>exam</b>	<b>a lecture</b>	<b>,Introduction historical ,overview definition of organic - agriculture basic objectives of organic agricultural .production</b>	<b>Understanding the subject and being able to apply it correctly</b>	<b>2</b>	<b>the first</b>
<b>exam</b>	<b>a lecture</b>	<b>The importance and reasons for the shift to organic agriculture .globally</b>	<b>Understanding the subject and being able to apply it correctly</b>	<b>2</b>	<b>the second</b>

<b>exam</b>	<b>a lecture</b>	<b>What are plant and animal wastes - their sources - how to benefit from them in soil - fertilization their nutritional content</b>	<b>Understanding the subject and being able to apply it correctly</b>	<b>2</b>	<b>the third</b>
<b>+ Report Evaluation</b>	<b>a lecture</b>	<b>The role of organic matter in dissolving and facilitating the absorption of nutrients necessary for plant growth and soil water .retention</b>	<b>Understanding the subject and being able to apply it correctly</b>	<b>2</b>	<b>Fourth</b>
<b>exam</b>	<b>a lecture</b>	<b>Manufacture of fertilizers from animal waste poultry and) ruminant (manure</b>	<b>Understanding the subject and being able to apply it correctly</b>	<b>2</b>	<b>Fifth</b>

exam	a lecture	Industrial organic fertilizer - (compost) - properties preparation .method	Understanding the subject and being able to apply it correctly	2	Sixth
exam	a lecture	Factors affecting the preparation of organic fertilizer during fermentation - processes Additives to organic fertilizer	Understanding the subject and being able to apply it correctly	2	Seventh
exam	a lecture	Bio-organic fertilization - (biofertilizers) nitrogen fixers phosphate - solvents	Understanding the subject and being able to apply it correctly	2	The eighth
exam	a lecture	Methods of adding organic fertilizer to the soil	Understanding the subject and being able to apply it correctly	2	Ninth

<b>+Report evaluation</b>	<b>a lecture</b>	<b>Agricultural rotations and green manure</b>	<b>Understanding the subject and being able to apply it correctly</b>	<b>2</b>	<b>tenth</b>
<b>exam</b>	<b>a lecture</b>	<b>Scientific foundations for organic fruit and vegetable production</b>	<b>Understanding the subject and being able to apply it correctly</b>	<b>2</b>	<b>eleventh</b>
<b>exam</b>	<b>a lecture</b>	<b>Reasons for switching to organic farming and organic production</b>	<b>Understanding the subject and being able to apply it correctly</b>	<b>2</b>	<b>the second ten</b>
<b>exam</b>	<b>a lecture</b>	<b>Organic Product Specifications Field Visit to - One of the Organic Farms in the Region</b>	<b>Understanding the subject and being able to apply it correctly</b>	<b>2</b>	<b>the third ten</b>

exam	a lecture	Organic Product Specifications Field Visit to - One of the Organic Farms in the Region	Understanding the subject and being able to apply it correctly	2	Fourth ten
exam	a lecture	Show films about the development of organic farming	Understanding the subject and being able to apply it correctly	2	fifteenth

11 Course Evaluation .

**The student's evaluation in the educational program depends entirely on daily preparation, daily, oral, monthly and written exams, and reports. Note that the passing grade is 50 :according to the following mechanism ,%**

**1- ) The grade for the annual subjects is divided into two parts 50 effort and % 50 ( final %**

**The evaluation is done by the subject teacher and depends on the \* student's attendance, daily exams, homework, and behavior during the .lecture**

**2 Graduation research for second-year students based on writing a - .scientific research and discussion**

**In addition to the continuous monitoring of the student's attendance at the theoretical lecture and laboratory, the student is considered not to have completed the course if his absences exceed 10 of the total hours for that % .course**

12 Learning and teaching resources -	
Basics of Plant Diseases Book - A - Soil Fertility and Plant Nutrition Book - The World of Plants Book - Plant Biotechnology Book	<b>Required textbooks (methodology if any)</b>
.First: peer-reviewed scientific journals .Second: Academic books .Third: Websites .Fourth: Scientific encyclopedias .Fifth: Scientific research	<b>References (Sources)</b>
- Curriculum books - study bags - laboratories .summer training	<b>Recommended supporting books and references (scientific ... (journals, reports</b>
. Agricultural websites	<b>references , websites</b>

### Care and storage

1- Course name
<b>Care and storage</b>
2 Course code -
3 Semester / Year -
<b>quarterly</b>
4 Date of preparation of this description -
<b>2024</b>
5 Available forms of attendance -
<b>compulsory</b>
6 Number of study hours (total) / Number of units (total) -
<b>140/140</b>
7 Name of the course supervisor (if more than one name is mentioned) -

8 Course objectives .

**Support The student With information Enable him to Learn about the processes of sorting, grading and packing fruits, learn about artificial ripening methods, and learn about the processes of cooling .and storing fruits**

**Subject objectives**

9 Teaching and learning strategies .

**Education Strategies**

**It includes a set of general rules and outlines that concern the means of achieving the desired goals of teaching through advance planning and setting future plans for each of (presentation - coordination - training - discussion) and organizing the classroom environment and classroom 'management for the purpose of developing students .education**

**Learning strategies**

**It includes the behaviors and procedures that students engage in that are intended to influence how they are able to process information and learn different tasks. Learning is strategic when students are aware of the specific skills and strategies (procedures and methods) that they use in .learning**

**Strategy**

10 Course Structure .

<b>Evaluation method</b>	<b>Learning method</b>	<b>Name of the unit or topic</b>	<b>Required learning outcomes</b>	<b>Watches</b>	<b>The week</b>
<b>exam</b>	<b>a lecture</b>	<b>The importance of storing fruits and ,vegetables the general principles followed in .storage</b>	<b>Understanding the subject and being able to apply it correctly</b>	<b>1</b>	<b>the first</b>
<b>exam</b>	<b>a lecture</b>	<b>Stages of fruit growth and ,development fruit care</b>	<b>Understanding the subject and being able to apply it correctly</b>	<b>1</b>	<b>the second</b>

		before and after picking			
exam	a lecture	components of fruits and ,vegetables nutritional and medicinal value of fruits and vegetables	Understanding the subject and being able to apply it correctly	1	the third
+ Report Evaluation	a lecture	Biochemical changes during the growth and development stages of ,fruits environmental effects on fruits before harvest	Understanding the subject and being able to apply it correctly	1	Fourth
exam	a lecture	changes of horticultural crops after harvest	Understanding the subject and being able to apply it correctly	1	Fifth
exam	a lecture	The relationship between fruit storage and ,respiration environmental effects on fruits after	Understanding the subject and being able to apply it correctly	1	Sixth
		Picking			
exam	a lecture	The relationship between water loss through transpiration and fruits	Understanding the subject and being able to apply it correctly	1	Seventh

		,after harvest protecting fruits during picking and transportation			
exam	a lecture	Methods of artificial ripening of fruits and vegetables after picking	Understanding the subject and being able to apply it correctly	1	The eighth
exam	a lecture	Methods of ,selection ,sorting grading and packing of fruits	Understanding the subject and being able to apply it correctly	1	Ninth
+ Report Evaluation	a lecture	Methods of ,selection ,sorting grading and packing of vegetables	Understanding the subject and being able to apply it correctly	1	tenth
exam	a lecture	Modern methods of ,fruit picking fruit packing houses	Understanding the subject and being able to apply it correctly	1	elevant h
exam	a lecture	Cooling methods for primary storage	Understanding the subject and being able to apply it correctly	1	the second ten
exam	a lecture	Modern storage ,methods how to create and build cold stores	Understanding the subject and being able to apply it correctly	1	the third ten
exam	a lecture	Physiological damage during	Understanding the subject and being	1	Fourth ten

		<b>storage and marketing</b>	<b>able to apply it correctly</b>		
<b>exam</b>	<b>a lecture</b>	<b>Low temperature damage</b>	<b>Understanding the subject and being able to apply it correctly</b>	<b>1</b>	<b>fifteenth</b>

## 11 Course Evaluation -

**The student's evaluation in the educational program depends entirely on daily preparation, daily, oral, monthly and written exams, and reports. Note that the passing grade is 50 :according to the following mechanism ,%**

**1- ) The grade for the annual subjects is divided into two parts 50 effort and % 50 ( final %**

**The evaluation is done by the subject teacher and is based on the student's attendance, daily exams, homework and behaviour during the lecture**

**2 Graduation research for second-year students based on writing a - scientific research and discussion**

**In addition to the continuous monitoring of the student's attendance at the theoretical lecture and laboratory, the student is considered not to have completed the course if his absences exceed 10 of the total hours for that % course**

## 12 Learning and teaching resources -

Basics book A Plant nutrition- - The Plant World Book - Plant Biotechnology Book	<b>Required textbooks (methodology if (any</b>
.First: peer-reviewed scientific journals .Second: Academic books .Third: Websites .Fourth: Scientific encyclopedias .Fifth: Scientific research	<b>References (Sources)</b>
- Curriculum books - study bags .laboratories - summer training	<b>Recommended supporting books and ,references (scientific journals .... (reports</b>
. Agricultural websites	<b>Electronic references , websites</b>

## Course Description Form

**This course description provides a brief summary of the main features of the course and the learning outcomes expected of the student, demonstrating whether he has made the most of the learning opportunities available. It must be linked to the program .description**

Al-Musayyab Technical Institute	1- Educational institution
Department of Plant Production Technologies	2- Scientific Department / Center
Seed production	3- Course Name/Code
The lecture	4- Available attendance forms
quarterly	5- Chapter/Year
hours per semester, theoretical and 60 practical	6- Number of study hours (total)
2024/28/2	Date of preparation of .7 this description
Course Objectives .8	
Granting the student a diploma in the theoretical and practical aspects, which serves to prepare a graduate with a .prestigious level and push him into the scientific arena	

Name of the course supervisor : M.M. Dhu al-Fiqar Ali Khanyab

## Teaching, learning and assessment strategies -9

### A- Cognitive objectives

A1- Teaching students how to identify the method of raising each plant to produce .seeds

Introducing students to how to conduct important tests on seeds so that they -2 .become able to describe them in their various types

Enabling the student to know how to deal with laboratory materials and -3 .equipment

### B - Course specific skill objectives

B1 - Providing the student with skills to apply scientific methods regarding seed testing so that he becomes able to propagate them using modern methods such as .plant tissue culture

Training the student to conduct seed certification processes to achieve -2 .high productivity

Providing the student with the necessary skills to conduct laboratory tests -3 . related to seeds and soil and how to give appropriate scientific judgments

## Teaching and learning methods

,Giving scientific and theoretical lectures through display screens, PowerPoint, slides microscopes, plant sample examination experiments, and using various laboratory .devices and equipment and a wooden canopy

#### Evaluation methods

(Oral exams, written exams, semester exams, final exams, daily assessment)

#### C- Emotional and value-based goals

.A1- Enabling the student to apply theoretical information in a scientific manner

Developing the national spirit among students to increase production in terms of -2 .quantity and quality

Instilling the concept of community service and the best way to deal with the -3 .simple segments of society, farmers and peasants

Developing the ethics of the agricultural engineering profession among students -4 .by following the correct professional behavior

.transferable skills (other skills related to employability and personal development)

D1- Entering programs

10- Course structure

<b>Evaluation method</b>	<b>Teaching method</b>	<b>Unit name/topic</b>	<b>Required learning outcomes</b>	<b>Watches</b>	<b>The week</b>
Listening and asking questions	The lecture	The concept of seeds, the importance of seeds, a historical overview of seed production	My knowledge and skills	4=3+1 hours	1
Practical ,exercise presentation and group work	The lecture And a practical lesson	Don't change	My knowledge and skills	=	2
Written exam	and Lecture practical lesson	Methods of breeding cross-,pollinated crops (import selection, hybridization, hybrid (production	My knowledge and skills	=	3
Written exam	and Lecture practical lesson	Methods of breeding self-,pollinating crops (import selection, hybridization, hybrid (production	My knowledge and skills	=	4
Mini-lesson Discussion Practical exercise and groups	and Lecture practical lesson	Seed certification, importance of seed certification, stages of seed production	My knowledge and skills	=	5
,Case study practical exercise and groups	and Lecture practical lesson	Genetic principles Causes of low genetic purity - Factors that help maintain genetic purity	My knowledge and skills My knowledge and skills	=	6
Listening and asking questions	The lecture practical	Agricultural principles of seed production	My knowledge and skills	=	7
Listening and asking questions	The lecture practical	Field Inspection - Conditions and Objectives - Field Inspector Specifications	My knowledge and skills	=	8

Practical evaluation	The lecture practical	Dormancy in seeds, its causes and treatment	My knowledge and skills	=	9
Listening and asking questions	The lecture practical	Wheat and rice seed production	My knowledge and skills	=	10
Practical evaluation	The lecture practical	Yellow corn seed production	My knowledge and skills	=	11
Listening and asking questions	The lecture practical	Cotton seed production - sugar beet	My knowledge and skills	=	12
Practical evaluation	The lecture practical	Solanaceae family seeds production - tomato - eggplant pepper -	My knowledge and skills	=	13
Written exam	The lecture	Production of Cucurbitaceae - seeds - squash - watermelon watermelon	My knowledge and skills	=	14
Practical evaluation	practical	- Production of gourd seeds - pumpkin - watermelon - watermelon	My knowledge and skills	=	15

11- The structure of the decision	
,Methodical Agriculture Book Educational Kit for the Course	Required textbooks -1
Textbooks taught in corresponding colleges and universities	Main references (sources) -2
Foreign and Arab references on agriculture and seed production	A- Recommended books and references ( scientific (. journals, reports, etc
Searching websites in agricultural sciences	,B - Electronic references ...websites

12- Course Evaluation
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By distributing the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly and .written exams, reports, etc

Learning and teaching resources .13

	Curriculum books, if any
	Main References..Sources
	Supporting books and references recommended by scientific .journals. Reports
	Electronic references websites

## Course Description Form

### Course Description

This course description provides a concise summary of the main characteristics of the course and the learning outcomes expected of the student, demonstrating whether he has made the most of .the learning opportunities available. It must be linked to the programme description

Al-Musayyab Technical Institute	19- Educational institution
Department of Plant Production Technologies	20- Scientific Department / Center
Plant diseases	21- Course Name/Code
My presence in the classroom and laboratories	22- Available attendance forms
First semester (autumn) / second	23- Chapter/Year
hours 60	24- Number of study hours (total)
2024/28/2	Date of preparation of .7 this description

## Course Objectives .8

- :General objective

,Introducing the student to the most important plant diseases that affect crops vegetables and orchards in terms of symptoms, method of spread and prevention of .diseases

- Special objective:

:The student will be able to

.Diagnoses diseases caused by viruses, nematodes, and element deficiencies -1

.Knowledge of parasitic flowering plants -2

.Developing the best means to prevent diseases -3

### Course name

A.M. Hamed Abdul Zaid Saud

Teaching, learning and assessment strategies -9

.Strategy: Use the whiteboard as a means to clarify and explain the material using pen

Colorful and charts

Conducting laboratory experiments in the pathology laboratory and observation in .fields and farms

### A- Cognitive objectives

.A1- Teaching students how to deal with plant diseases

A2- Enabling the student to know how to deal with laboratory materials and . equipment

### B - Course specific skill objectives

B1- Providing the student with the necessary skills to conduct laboratory tests .related to plant diseases

### C- Emotional and value-based goals

.A1- Enabling the student to apply theoretical information in a practical way

A2- Developing the national spirit among students to increase production in terms of .quantity and quality

A3- Instilling the concept of community service and the best way to deal with .simple segments of society, such as farmers and peasants

.transferable skills (other skills related to employability and personal development)

D1- Entering programs

### Teaching and learning methods -10

(Lecture, laboratory, methodical training, summer training)

,Giving theoretical and practical lectures through display screens, PowerPoint, slides microscopes, plant sample examination experiments, and using various laboratory .devices and equipment and a wooden canopy

### Evaluation methods -11

(Oral exams, written exams, semester exams, final exams, daily assessment)

- ) Conducting daily quick tests Quiz .(
- .Conducting monthly exams
- .Conducting midterm and final exams

### Course Structure .10

Evaluation method	Learning method	Name of unit or subject (practical)	Name of unit or subject (theoretical)	Learning outcomes Required	Watch es	The week
Daily evaluation	Modern teaching methods	Methods of studying ,plant diseases studying the disease	Classification of plant diseases according to the	Cognitive skill	2 theoret + ical	the first

	for theory and practice	at the site of its appearance, studying the disease in the laboratory	pathogen, symptoms and .agent		2 practical	
Daily evaluation with notes on answering questions during the lecture	Modern teaching methods for theory and practice	The most important diseases caused by algae and lichens, rice serogyra	Plant diseases caused by algae, their characteristics, symptoms .and methods of control	Cognitive skill	2 theoret + ical 2 practical	Second and third
Daily evaluation with notes on answering questions during the lecture	Modern teaching methods for theory and practice	Physiological diseases of plants, blossom end rot of tomato and rose, gummosis of .stone fruit trees	,Non-parasitic diseases ,their causes, symptoms ,nitrogen deficiency ,potassium deficiency ,phosphorus, magnesium sulfur, iron, zinc .deficiency	Cognitive skill	2 theoret + ical 2 practical	Fourth
Daily evaluation with notes on answering questions during the lecture	Modern teaching methods for theory and practice	Mineral deficiency ,diseases (nitrogen ,potassium ,phosphorus, zinc .(boron	Supplementing the symptoms of element ,deficiency, boron manganese, copper, and .mondium	Cognitive skill	2 theoret + ical 2 practical	Fifth
Daily evaluation with notes on answering questions during the lecture	Modern teaching methods for theory and practice	Combating one of the diseases prevalent in .the institute	Plant diseases resulting ,from irregular irrigation ,high groundwater level blossom end rot on tomato ,and watermelon fruits gummosis of stone fruit .trees	Cognitive skill	2 theoret + ical 2 practical	Sixth
Daily evaluation with notes on answering questions	Modern teaching methods for theory and practice	Training students on how to sterilize agricultural soil and seeds prepared for .planting	Methods of combating plant diseases agricultural, biological) and chemical methods ,mercury bactericides) antibiotics), plant	Cognitive skill	2 theoret + ical 2 practical	Seventh

during the lecture			breeding and .(improvement			
Daily evaluation with notes on answering questions during the lecture	Modern teaching methods for theory and practice	Showing scientific films about the most .common diseases	Mycotoxins produced by some fungi that infect grains, fruits and .foodstuffs	Cogniti ve skill	2 theoret + ical 2 practic al	The eighth
Daily evaluation with notes on answering questions during the lecture	Modern teaching methods for theory and practice	Diseases resulting from irregular irrigation and high .groundwater levels	Show scientific films about the most common diseases	Cogniti ve skill	2 theoret + ical 2 practic al	Ninth
Daily evaluation with notes on answering questions during the lecture	Modern teaching methods for theory and practice	Poor ventilation diseases	Mycoplasma as a plant pathogen, its characteristics, the most important diseases it causes, its symptoms, its life cycle, and methods of .resistance	Cogniti ve skill	2 theoret + ical 2 practic al	tenth
Daily evaluation with notes on answering questions during the lecture	Modern teaching ) methods interactive ( Media Presentati ( ons	The most important diseases caused by .mycoplasma	.Plant pathogenic bacteria	Cogniti ve skill	2 theoret + ical 2 practic al	eleventh
Daily evaluation with notes on answering questions during the lecture	Modern teaching ) methods interactive ( Media Presentati ( ons	The most important diseases caused by bacteria are bacterial wilt disease on cucurbits, and fire blight on pears and .apples	Plant viruses, virus shapes, chemical .composition of the fungus	Cogniti ve skill	2 theoret + ical 2 practic al	twelfth

Daily evaluation with notes on answering questions during the lecture	Modern teaching ) methods interactive ( Media Presentati ( ons	The most important plant diseases caused by viruses, tomato ,mosaic disease ,tomato leaf curl and ,yellowing disease cucurbit mosaic disease	General diseases of viral .diseases	Cogniti ve skill	2 theoret + ical 2 practic al	thirteenth
Daily evaluation with notes on answering questions during the lecture	Modern teaching ) methods interactive ( Media Presentati ( ons	The most important diseases caused by nematodes are slow decline disease in citrus fruits and root .knot disease	,Life cycle of nematodes parasitism and changes caused by nematodes on plant tissue	Cogniti ve skill	2 theoret + ical 2 practic al	fourteenth
Daily evaluation with notes on answering questions during the lecture	Modern teaching ) methods interactive ( Media Presentati ( ons	Isolation of nematodes from soil and infected plant parts (roots and ,(seeds	Resistance to nematodes and the most important .diseases they cause	Cogniti ve skill	2 theoret + ical 2 practic al	fifteenth

#### Curriculum development plan -13

Providing the possibility of academic support in organizing - .field visits

Providing an appropriate classroom environment that - .enables the teacher to diversify teaching strategies

Providing information technology in the campus library -

Hosting experts from outside the institute or from the work - environment for which they are preparing to benefit from their expertise in developing the course according to the actual .need of the labor market

#### Infrastructure -14

Winter Vegetable Crops Textbook

Required textbooks -1

Supporting resources for each course	Main references (sources) -2
Scientific journals, as well as research, theses and dissertations of professors in the same .specialization	A- Recommended books and references ( scientific ( .journals, reports, etc
<a href="http://www.google.com">www.google.com</a> website	,B - Electronic references ...websites

**Course Evaluation -15**  
 By distributing the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly and .written exams, reports, etc

<b>Learning and teaching resources .16</b>	
<b>.Plant Diseases - Theoretical Part Dr Majeed Mutab Diwan Dr. Ali Hussein Al-Bahadli</b>	Curriculum books, if any
	Main References..Sources
	Supporting books and references recommended by .scientific journals. Reports
	Electronic references websites

### Course Description Form

1. Course Name : Computer Applications (1)
2. Course code
3. Semester/Year : First and Second Semester/First Year
4. Date of preparation of this description : 2/14/2024

5. Available attendance forms: Lecture attendance – Computer lab	
6. / Number of study hours (total) / Number of units (total): 3 hours units 6	
7. Name of the course administrator (if more than one name is (mentioned : A Email Name: M. Zaid Jafar Hashim Al <a href="mailto:Zaid.Jaffar@atu.edu.iq">Zaid.Jaffar@atu.edu.iq</a>	
8. objectives Course	
<ul style="list-style-type: none"> <li>• Introducing the student to computers, their importance, their operating system, and their ,parts, preparing him to deal with the computer and training him to perform or participate in application programs in the field of .specialization</li> <li>• The student works on the calculator, enters data .and obtains results</li> <li>•</li> </ul>	Subject objectives Academic
9. Teaching and learning strategies	
<ol style="list-style-type: none"> <li>1- .Learn about the parts of the computer</li> <li>2- .Learn operating system commands</li> <li>3- .Identify computer control panels</li> <li>4- Learn aboutPaint .</li> </ol>	Strategy
10. Course structure	

Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	Watches	The week
Written tests Midterm exams Final exams Daily evaluation	Lecture Workshop The laboratory Summer training	Definition of the calculator Generations - of the - calculator Hardware and software components	Learn the definition of a - computer generations of - computers hardware and software components	6	<b>the first</b>
Written tests Midterm exams Final exams Daily evaluation	Lecture Workshop The laboratory Summer training	MS-Dos operating , system system ,concept system ,reference ,disks directories and their ,levels, files internal and external commands	Learn about MS-Dos operating system , system ,concept ,system signal ,disks directories and ,their levels files, internal and external .commands	6	<b>the second</b>
Written tests Midterm exams Final exams Daily evaluation	Lecture Workshop The laboratory Summer training	Internal and External commands of the operating system.	Learn about internal and external operating system commands.	6	<b>Third to twelfth</b>
Written tests Midterm exams Final exams Daily evaluation	Lecture Workshop The laboratory Summer training	Windows operating , system system ,concept ,advantages basic ,requirements system ,operation desktop components, icon concept how to deal , with the mouse , importance	Windows operating system , the concept of the ,system ,advantages basic ,requirements operating the ,system desktop components, the concept of icons how to , deal withthe mouse the , importance	6	<b>thirteenth to twenty-seventh</b>

		and components of the task bar , start , menu exit the .system Dealing with desktop ,icons dealing with components of the My Computer icon in terms ,of disks folders files , , formatting ,disks copying files , and folders taking advantage of Cut and Paste , operations dealing with the Recycle Bin how to , delete and retrieve files.	and components of the Task Bar , the Start menu exiting the , .system Dealing with ,desktop icons dealing with the components of the My Computer icon in terms of ,disks folders , files, formatting disks, copying files and , folders taking advantage of the Cut and Paste operations , dealing with the Recycle Bin how to , delete and retrieve files.		
Written tests Midterm exams Final exams Daily evaluation	Lecture Workshop The laboratory Summer training	Benefit from Control Panel programs, change the desktop ,background control the ScreenSaver add and , remove programs to the Start menu.	Panel , programs change the desktop ,background control the ScreenSaver , add and remove programs to the Start menu .	6	<b>thirteenth to twenty-seventh</b>
Written tests Midterm exams Final exams	Lecture Workshop The laboratory Summer training	Use the Run command to execute programs directly.	Use the Run command to execute programs directly.	6	<b>thirteenth to twenty-seventh</b>

Daily evaluation					
Written tests Midterm exams Final exams Daily evaluation	Lecture Workshop The laboratory Summer training	Use Window media player take , advantage of accessories and use the calculator.	Learn how to use Window media player , take advantage of accessories and use the calculator.	6	<b>thirteenth to twenty-seventh</b>
Written tests Midterm exams Final exams Daily evaluation	Lecture Workshop The laboratory Summer training	Dealing with the Paint program to create, save and retrieve .drawings Dealing with Office applications. How to get help.	Learn how to use Paint to create, save and retrieve .drawings Deal with Office applications. How to get help.	6	<b>thirteenth to twenty-seventh</b>
Written tests Midterm exams Final exams Daily evaluation	Lecture Workshop The laboratory Summer training	The concept of computer viruses, how to get ,infected types of viruses, how to treat and deal with them using anti-virus programs.	Learn about the concept of computer viruses, how to get infected, types ,of viruses how to treat them and deal with them using anti-virus programs.	6	<b>twenty-eight to thirtieth</b>

### 11. Course Evaluation

,The grade is distributed out of 100 according to the tasks assigned to the student .such as daily preparation, daily, oral, monthly and written exams, reports, etc

### 12. Learning and teaching resources

General principles of computers	Required textbooks (methodology if any)
General principles of computers	Main References (Sources)
A collection of books in the field of computers	Recommended supporting books and references (.scientific journals, reports, etc)
View websites in this field	Electronic references, websites

## Course Description Form

13.Course name : Democracy	
14.Course code	
15.Semester/Year : Second Semester /First Year	
16.Date of preparation of this description : 2/14/2024	
17.Available forms of attendance: Attend a lecture	
18. / Number of study hours (total) / Number of units (total): 2 hours units 2	
19. Name of the course administrator (if more than one name is (mentioned	
: Name: M.M. Munir Hadi Hussein	Email
<a href="mailto:muneer.hadi@atu.edu.iq">muneer.hadi@atu.edu.iq</a>	
20.objectives Course	
<ul style="list-style-type: none"> <li>Identifying the most important rights of citizens in the past, present and future, and the most .important laws that govern this</li> <li>,Identify regional charters, constitutions guarantees of respect for and protection of .human rights and the legitimate rules of law</li> <li>. Democracy, its concepts and types</li> </ul>	Subject objectives Academic

21. Teaching and learning strategies					
1- . Learn about democracy and its types 2- . Learn about the concepts of democracy 3- . Understand the concept of freedoms 4- . Recognizing the right to ownership					Strategy
22 –Course structure					
Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	Watches	The week
Written tests Midterm exams Final exams Daily evaluation	Lecture Workshop The laboratory Summer training	- Democracy - definition types.	Learn about - democracy - its definition its types.	2	<b>the first</b>
Written tests Midterm exams Final exams Daily evaluation	Lecture Workshop The laboratory Summer training	Concepts of democracy.	Learn about the concepts of democracy.	2	<b>the second</b>
Written tests Midterm exams Final exams Daily evaluation	Lecture Workshop The laboratory Summer training	Democracy in the Third World.	Understanding democracy in the third world .	2	<b>the third</b>
Written tests Midterm exams Final exams Daily evaluation	Lecture Workshop The laboratory Summer training	Democratic systems in the world.	Learn about democratic systems in the world.	2	<b>Fourth</b>
Written tests Midterm exams	Lecture Workshop The laboratory	The concept ,of freedoms classification	Understanding the concept of ,freedoms classifying	2	<b>Fifth</b>

Final exams Daily evaluation	Summer training	of public freedoms.	public freedoms.		
Written tests Midterm exams Final exams Daily evaluation	Lecture Workshop The laboratory Summer training	Fundamental ,freedoms intellectual ,freedoms economic and social freedoms.	Identifying basic ,freedoms intellectual ,freedoms economic and social freedoms.	2	<b>Sixth</b>
Written tests Midterm exams Final exams Daily evaluation	Lecture Workshop The laboratory Summer training	,Freedom security and a sense of reassurance.	Learn about the freedom of security and feel reassured.	2	<b>Seventh</b>
Written tests Midterm exams Final exams Daily evaluation	Lecture Workshop The laboratory Summer training	Freedom to come and go	Learn about freedom of movement.	2	<b>The eighth</b>
Written tests Midterm exams Final exams Daily evaluation	Lecture Workshop The laboratory Summer training	Freedom of education.	Learn about freedom of education.	2	<b>Ninth</b>
Written tests Midterm exams Final exams Daily evaluation	Lecture Workshop The laboratory Summer training	Freedom of the press.	Learn about freedom of the press.	2	<b>tenth</b>
Written tests Midterm exams Final exams Daily evaluation	Lecture Workshop The laboratory Summer training	Freedom of assembly.	Learn about freedom of assembly.	2	<b>eleventh</b>
Written tests	Lecture Workshop	freedom of association	Learn about freedom of association	2	<b>twelfth</b>

Midterm exams Final exams Daily evaluation	The laboratory Summer training				
Written tests Midterm exams Final exams Daily evaluation	Lecture Workshop The laboratory Summer training	Freedom of work.	Learn about freedom of work.	2	<b>thirteenth</b>
Written tests Midterm exams Final exams Daily evaluation	Lecture Workshop The laboratory Summer training	Right of ownership.	Recognizing the right to ownership.	2	<b>fourteenth</b>
Written tests Midterm exams Final exams Daily evaluation	Lecture Workshop The laboratory Summer training	Freedom of trade and industry.	Learn about freedom of trade and industry.	2	<b>fifteenth</b>

### 23 –Course Evaluation

,The grade is distributed out of 100 according to the tasks assigned to the student .such as daily preparation, daily, oral, monthly and written exams, reports, etc

### 24– Learning and teaching resources

General principles of democracy	Required textbooks (methodology if any)
General principles of democracy	Main References (Sources)
A collection of books on democracy	Recommended supporting books and references (scientific journals, reports, etc.)
View websites in this field	Electronic references, websites

## Course Description Form

Course Name : Computer Applications (2)	
Course code	
Semester/Year : First Semester/ Second Year	
of preparation of this description : 2/19/2024	
Available forms of attendance: Attend a lecture	
Number of study hours (total) / Number of units (total): 3 hours / 3 units	
Name of the course administrator (if more than one name is (mentioned	
: Name: Ms. Dalal Imran Hamza	Email
<a href="mailto:Dalal.Hsamza@atu.edu.iq">Dalal.Hsamza@atu.edu.iq</a>	
objectives Course	
<ul style="list-style-type: none"> <li>Introducing the student to computers, their ,importance, their operating system, and their parts preparing him to deal with the computer, and training him to perform or participate in .application programs in the field of specialization</li> </ul>	Subject objectives Academic
Teaching and learning strategies	
<ul style="list-style-type: none"> <li>The student works on the calculator, enters data and obtains .results</li> </ul>	Strategy
<b>Course structure</b>	

Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	Watches	The week
Written tests Midterm exams Final exams Daily evaluation	Computer Center	The concept of networks and their types, the Internet and how to operate it, the main screen connecting to the World Wide Web, benefiting from global search engines such as Yahoo & Google and, ways to access information.	Learn about concept of networks and their types, the Internet and how to operate it, the main screen connecting to the World Wide Web benefiting from global search engines such as Yahoo & Google and, ways to access information.	3	3-1
Written tests Midterm exams Final exams Daily evaluation	Computer Center	Excel spreadsheet, program specifications features, how to operate main screen and its components drop-down lists, cell and types of input data.	Get to know Excel spreadsheet, program specifications features, how to operate, main screen and its components, drop-down lists cell and types of input data.	3	14-4
		Save and retrieve the worksheet, close the program, retrieve the file, enter data and perform simple calculations, adjust and format data within the cell.	Learn how to save and retrieve a worksheet, close the program, retrieve the file, enter data and perform simple calculations, adjust and format data within the cell.		

		Methods of collecting and ,sorting data using some mathematical functions such asMax, Min, Sum, Count, Sqrt	how to Learn collect and sort data, use some mathematical functions such asMax, Min, Sum, Count, Sqrt		
		Performing cell editing ,operations copying and ,moving data copying ,calculations the concept of relative and absolute cells , using formatting tools to control ,cell operations dealing with charts, converting numerical and text data into .charts	Learn how to perform cell editing operations, copy ,and move data copy calculations, the concept of relative and absolute cells , use formatting tools to control ,cell operations deal with charts, and convert numeric and text .data into charts		
		Add and delete rows and columns in the ,worksheet print numerical .data and charts	Learn how to add and delete rows and columns in a worksheet, print numerical data .and charts		
Written tests Midterm exams Final exams Daily evaluation	Computer Center	SPSS statistical , program operation, data ,analysis steps main screen ,components ,data entry saving and retrieving, data sorting and ,switching specifying the statistical .procedure	Get to know SPSS statistical , program operation, data ,analysis steps main screen ,components ,data entry saving and retrieving, data sorting and ,switching specifying the	3	30-15

			statistical procedure		
		Inserting Variable ,Case Analysis and , Descriptive .Statistics Statistical Summary of Data, Reports for Columns .and Rows	Learn about variable , inclusioncase , analysis and descriptive .statistics Statistical summary of data Summary , reports for columns and .rows		
		CompareMean Compare , ,Variables Correlate , Regression .	Get to know CompareMean , Compare ,Variables Correlate , Regression .		
		Quality Control Panel , applications dealing with charts, dealing with commands :such as Summarize, Custom table, Anova models, Non-parametric methods .	Quality Control panel , applications dealing with charts, dealing with commands :such as Summarize, Custom table, Anova models, Non-parametric methods .		

### Course Evaluation

,The grade is distributed out of 100 according to the tasks assigned to the student .such as daily preparation, daily, oral, monthly and written exams, reports, etc

### Learning and teaching resources

General principles of computer applications (2)	Required textbooks (methodology if any)
General principles of computer applications (2)	Main References (Sources)
A collection of books in the field of computer applications (2)	Recommended supporting books and ,references (scientific journals, reports (.etc
View websites in this field	Electronic references, websites

## Course Description Form

### Course Description

This course description provides a concise summary of the main characteristics of the course and the learning outcomes expected of the student demonstrating whether he has made the most of the available learning opportunities and must be linked to the programme description

Middle Euphrates Technical University - Al-Musayyab Technical Institute	<b>1. Educational institution</b>
Department of Plant Production Technologies	<b>2. Scientific Department/Center</b>
- Baath Party Crimes Baath Party Crimes	<b>3. Course Name/Code</b>
My presence	<b>4. Available attendance forms</b>
annual	<b>5. Chapter/Year</b>
30 = 30 * 1	<b>6. Number of study hours (total)</b>
2023 - 12 - 27	<b>7. Date this description was prepared</b>
M.M. Mustafa Ahmed Abd <a href="mailto:Mustafa.abid@atu.edu.iq">Mustafa.abid@atu.edu.iq</a>	<b>8. Subject teacher</b>
<b>Course objectives</b>	
: <b>General objective:</b> Qualifying the student to be able to .Learn about local and international laws that deal with human rights issues	
: <b>Special objective:</b> 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	

## Course outcomes , teaching , learning and assessment methods

### Cognitive objectives

1. To raise the level of awareness of the student
2. .The student should learn about rights and laws
3. The student should get to know the system of the country to which he belongs or .outside it

### Course Skill Objectives

1. To acquire the skill to distinguish between crimes
2. To acquire skill in knowing the laws of the International Criminal Court
3. To know the crimes committed against humanity

### and learning methods

(Lectures, Laboratories, workshops, training Summer, projects)

### Evaluation methods

1. oral exams
2. Daily exams
3. Monthly exams
4. Final exams

### and value goals

1. Developing the student's personality
2. Encouraging the student to dialogue
3. Motivating students to participate in work groups that develop teamwork
4. Equipping the student with sufficient information about teamwork

### and learning methods

(Lectures, Laboratories, workshops, training Summer, projects)

### Evaluation methods

1. oral exams
2. Daily exams
3. Monthly exams
4. Final exams

### and transferable skills (other skills related to employability and personal development

1. Developing the student to think in a purely geometric way
2. Developing the student's knowledge of electronic medical devices and how to deal with them

## Course structure

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	Watches	The week
Daily exam + Monthly exam	a lecture	Definition of crimes	Concept and definition of crimes and their types	2	1
Daily exam + Monthly exam	a lecture	The most important decisions issued by the Supreme Criminal Court	Position of the Iraqi High Criminal Court Law of 2001 2005	2	2
Daily exam + Monthly exam	a lecture	international crimes	Types of international crimes	2	3
Daily exam + Monthly exam	a lecture	The role of the Baath regime	The role of the Baath regime in psychological violations and their consequences	2	4
Daily exam + Monthly exam	a lecture	The violative role of the Baath Party	The role of the Baath regime in psychological violations and their consequences	2	5
Daily exam + Monthly exam	a lecture	System position	The Baath regime's position on religion and religious institutions	2	6
Daily exam + Monthly exam	a lecture	The role of the Baath regime	The role of the Baath regime in violating human rights laws	2	7
Daily exam + Monthly exam	a lecture	Violations	and military violations of the Baath regime	2	8
Daily exam + Monthly exam	a lecture	Baath regime environmental violations	Baath regime environmental violations	2	9

Monthly exam					
Daily exam + Monthly exam	a lecture	War pollution	Iraq / War Pollution	2	10
Daily exam + Monthly exam	a lecture	destroy cities	Baath regime environmental violations in Iraq destroying cities	2	11
Daily exam + Monthly exam	a lecture	Baath regime violations	Drying the marshes	2	12
Daily exam + Monthly exam	a lecture	Legal conditioning	and Sharia Conditioning of the Crime of Mass Graves	2	13
Daily exam + Monthly exam	a lecture	mass graves	The role of the regime in the mass graves in Iraq	2	14

## 9. Infrastructure

methodical book	<b>1. Required Textbooks</b>
Websites	<b>2. Main References (Sources)</b>
research and journals in the field of specialization	<b>Recommended books and references ,scientific journals) (...reports</b>
Universities and institutes websites And specialized research centers	<b>Electronic references, websites</b>

## Curriculum Development Plan

.Search for the latest scientific developments on this topic

### Course Description Form

Course name/ English language/ Theoretical/ Second stage
Course code
Chapter / Year/ First Second Semester & Semester
Date of preparation of this description: 2024-2-23
/ Available attendance formsIn person-
Number of study hours (total) (2) / Number of units (2)
Name of the course administrator (if more than one name is mentioned)
Name: Hussein Ali Hameed <a href="mailto:hussain.ali@atu.edu.iq">hussain.ali@atu.edu.iq</a>
objectives Course
<b>Subject objectives</b> • ,Providing the student with information that enables him to know the types of nurserie planning and preparing the nursery, propagating plants using various sexual and .vegetative methods, and learning about the importance of productive forests • .Preventive and touristic activities and training students to use the English language
Teaching and learning strategies
<b>Strategy</b> <b>Education Strategies</b> It includes a set of general rules and outlines that concern the means of achieving the desired goals of teaching through advance planning and setting future plans for each of (presentation - coordination - training - discussion) and organizing the classroom environment and classroom management for the purpose of developing .students' education

## Learning strategies

It includes the behaviors and actions that students engage in that are intended to influence how they learn

Through it, you can process information and learn different tasks, and learning is strategic when

Students are aware of the specific skills and strategies (procedures and methods) they use in learning

### Course structure

Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	Watches	The week
exam	My presence	<b>Tenses</b> Present, past, future p6-8 <b>Questions</b> <b>Questions words</b> <i>Who ... ?, Why ... ?, How ... ?</i> p7	2	First week	
exam	My presence	<b>Present tenses</b> Present Simple Present Continuous <i>have/have got</i>	2	The second week	
exam	My presence	<b>Past tenses</b> Past Simple Past Continuous	2	The third week	
exam	My presence	<b>Quantity</b> <b>Articles</b>	2	Week 4	
exam	My presence	<b>Verb patterns</b> <b>Future intentions</b>	2	Week 5	
exam	My presence	<b>What's it like?</b> <b>Comparative and superlative adjectives</b>	2	Week 6	
exam	My presence	<b>Present Perfect and Past Simple</b> <i>for and since</i> <b>Tense revision</b>	2	The seventh week	
exam	My presence	<i>have (got) to</i> <i>should</i> <i>must</i>	2	Week 8	
exam	My presence	<b>Time and conditional clauses</b>	2	Week 9	
exam	My presence	<b>Verb patterns 2</b> <b>Infinitives</b>	2	The tenth week	
exam	My presence	<b>Passives</b>	2	Week eleven	
exam	My presence	<b>Second conditional</b>	2	twelfth week	

exam	My presence	Present Perfect Continuous Present Perfect Simple versus Continuous		2	thirteenthweek
exam	My presence	Past Perfect Reported statements		2	Fourteenthweek
exam	My presence			2	Week 15
<b>Course Evaluation</b>					
The grade is distributed out of 100 according to the tasks assigned to the student, such as .daily preparation, daily, oral, monthly and written exams, reports, etc					
<b>Learning and teaching resources</b>					
New Headway Pre-Intermediate student's book		Required textbooks (methodology if any)			
		Main References (Sources)			
		Recommended supporting books and references (.scientific journals, reports, etc)			
		Electronic references, websites			