Course Description Form

1. Course Name:
Vegetable Seed Production
2. Course Code:
VESP407
3. Semester / Year:
First fall semester / 2023-2024
4. Description Preparation Date:
1/2/2024
5. Available Attendance Forms:
My presence
6. Number of Credit Hours (Total) / Number of Units (Total)
Theoretical 2 + 3 practical/3.5 units
7. Course administrator's name (mention all, if more than one name)
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8. Course Objectives

Theoretical **-The course aims to teach students** **- Identifying seeds of vegetable crops and methods of producing Them And maintain it** **- Identify methods of producing seeds for vegetable crops Summer and winter.** **- Identifying vegetable seeds in terms of description** **- Morphology and how to measure its vitality** **- The rate of germination, its speed, determination of its purity, and knowledge of the plant** **Its flowers and methods of pollination (cross or self)** **- Knowing the problems we face in growing crops Vegetables, their reproduction, and methods of producing their seeds**	**practical :** **1- Introducing students to seeds, their types, methods of collecting and extracting them, their economic importance, and their morphological description.** **2- Study the factors that must be present for the success of the seed production process.** **3- Enabling the student to recognize the tools that...** **It is used in the process of cleaning and analyzing the sample into its components.** **4- Enabling students to distinguish varieties of the same plant.** **5- Enabling students to**

	calculate the necessary amount of seeds that we need to plant a unit **Space with exercises and mathematical examples.** **6- Enabling students to conduct the germination examination process** **Seed vitality and identifying the causes of seeds losing their vitality, especially during storage.** **7- Introducing students to the types of methods for extracting seeds from fruits, whether the fruits are soft or dry**

9. Teaching and Learning Strategies

Theoretical - Interactive lecture -Brainstorming - Dialogue and discussion - Assigning tasks and reporting - Presentations of scientific films about germination Seeds, their speed, and formation of the shoot and root - He is assigned to prepare a report entitled from his diligence He prepares it for discussion with students.	practical : 1- Live lectures with students. 2- PowerPoint slides. 3- Scientific visits to seed testing and certification centers. 4- Applying some practical skills in vegetable fields. 5- Dialogues and discussions with students. 6- Assigning tasks and reports.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	• 2 Theoretical	A1: Recognizes Seed and its specifications	Definition of seed	auditory methods, Writing style on the blackboard Dialogue style Direct slides Power Point	Short exams assignments, discussions
	• 3 practical	A1: The student	Seeds, types of	Practical	Short exams

		learns about seeds Good seed recipes And some solid companies For seed production.	containers used to package seeds, and the information recorded on them. Names of some companies Arab and scientific company specializing in the production of vegetable seeds	assignment With tasks And report	Assignment of duty discussions
2	•2 Theoretical	A2: He knows Bitcoin The seed And its stages and development	Stages of seed formation and development	auditory methods, Writing style on the blackboard Dialogue style Direct slides Power Point	Short exams Assignment of duty discussions
	• 3 practical	C3: The student is proficient distinguish between Seed types through Morphological description For seeds for the family (Solanaceae and Brassicaeae plants).	Morphological description For vegetable crops, including Solanaceae family (tomato, potato, Eggplant, pepper) and family Brassicaeae(Cabbage, cauliflower, Chilli, radish, broccoli).	practical Assignment tasks And report	Short exams Assignment of duty discussions
3	•2 Theoretical	A2: Recognizes flowers And influencing factors on him .	Factors affecting Flowering and fruit setting.	auditory methods, Writing style on the blackboard Dialogue style Direct slides Power Point	Short exams Assignment of duty discussions
	• 3 practical	C3: The student can Distinction between	Morphological description of vegetable crops, including the	practical Assignment tasks And report	Short exams Assignment of duty discussions

		Seed types through Morphological description For families (Fabaceae and alliaceae). And mallow and compound).	Fabaceae family (peas, peas, beans, cowpeas), the alliaceae family (onions, garlic, leeks), the mallow family (Malvaceae), and the Asteraceae family (lettuce).).		
4	• 2 Theoretical	A5: Distinguishes the types of stillness And its benefits	Seed dormancy	auditory methods, Writing style on the blackboard Dialogue style Direct slides Power Point	Short exams Assignment of duty
	• 3 practical	A1: The student recognizes On types Seeds from and distinguish between them For families (tent And cucurbit and saprophytic).	Morphological description For vegetable crops, including The Apiaceae family (celery, parsley, carrots) and the cucurbita family (cucumber, watermelon, rosemary, Pumpkin, cucumber and family Chene podiaceae (spinach, Chard, beets).	practical Assignment tasks And report	Short exams Assignment of duty discussions
5	• 2 Theoretical	A5: It characterizes seed viability And the factors affecting Germination power	Germination vigour	auditory methods, Writing style on the blackboard Dialogue style Direct slides Power Point	Short exams, assignments, discussions
	• 3 practical	A1: The student gets to know	Methods for distinguishing	practical Assignment tasks	Short exams Assignment

		General ways to excel Among the types of seeds.	seeds of vegetable crops through (seed shape, seed size, seed surface, taste and smell of seeds). First monthly test..	And report	of duty discussions
6	• 2 Theoretical	B2: Explains Production foundations Vegetable seeds	Principles of vegetable seed production	auditory methods, Writing style on the blackboard Dialogue style Direct slides Power Point	Short exams, assignments, discussions
	• 3 practical	D1: The student gains Taking skills Used samples In examining the sample.	sampling methods,Tools used in sample extraction, Sample receipt card Samples, someTerms used in extracting samples..	practical Assignment tasks And report	Short exams Assignment of duty discussions
7	• 2 Theoretical	A2: Familiar with operations the service	Service operations agricultural	auditory methods, Writing style on the blackboard Dialogue style Direct slides Power Point	Short exams, assignments, discussions
	• 3 practical	C4: The student draws In steps General seed production Knowing thefactors Which must be present for success Seed production process.	Seed production steps (breeder seeds, foundation seeds, registered seeds, certified seeds,commercial seeds).Producing approved seeds by direct propagation of foundation seeds. Factors that must be present For the success of the	practical Assignment tasks And report	Discussing student reports

			seed production process.		
8	• 2 Theoretical	A1: Knows ways Family seed production Solanaceae	Methods of producing crop seeds Family vegetables Solanaceae	auditory methods, Writing style on the blackboard Dialogue style Direct slides Power Point	Short exams, assignments, discussions
	• 3 practical	C3: The student masters the methods the operation To know the purity of seeds. Familiarity with the tools used in the analysis process The sample into its components.ls).	Practical methods for studying seed purity. Tools used in The process of cleaning and analyzing the sample into its components (test plate, sieves, seed blowers, Tweezers, utensils, shovel small magnifying glass, Sensitive scale, seals).r	practical Assignment tasks And report	Short exams Assignment of duty discussionس
9	• 2 Theoretical	A1: Knows ways Seed production Cucurbitaceae family	Seed production methods Cucurbitaceae family	auditory methods, Writing style on the blackboard Dialogue style Direct slides Power Point practical Assignment tasks And report	Short exams, assignments, discussions
	• 3 practical	C3: Student uses Morphological methods And chemical Pathological and anatomical To get to know the types	Identifying varieties through many methods, the most important of which are: (the exams Morphological, chemical tests,	practical Assignment tasks And report	Short exams Assignment of duty discussions

			use of ultraviolet radiation, methods Pathology, anatomical methods).		
10	• Theoretical	A5: Distinguish production methods Seeds of the Brassicaceae family	Seed production methods Brassicaceae family	auditory methods, Writing style on the blackboard Dialogue style Direct slides Power Point	Short exams, assignments, discussions
	• 3 practical	D1: The student gains Ability to calculate the amount of seed quantity required per unit area. A scientific visit to one of the centers Seed Inspection and certification.	Factors determining the amount of seeds that we need to grow a unit of area, with mathematical examples. Scientific visit to an examination center Seed certification. With writing a report on the most important Views that were inspected at an examination and certification center Seeds in detail With pictures.	practical Assignment tasks And report	Short exams Assignment of duty discussions
11	• Theoretical	D3: Shows production methods Seeds Alliaceae family	Seed production methods Alliaceae family	auditory methods, Writing style on the blackboard Dialogue style Direct slides Power Point	Short exams, assignments, discussions

	• 3 practical	A1: The student recognizes On used tools In seed germination laboratories.	Germination check. Equipment and tools used in germination laboratories (mulch Seeds and their types, counters Seeds, their types, Seed brooders).	practical Assignment tasks And report	Short exams Assignment of duty discussions
12	•2Theoretical	A1: Knows production methods Family seeds Chena podiaceae and Asteraceae	Methods of producing seeds Chena podiaceae family Methods of producing seeds for a family The Asteraceae	auditory methods, Writing style on the blackboard Dialogue style Direct slides Power Point	Short exams, assignments, discussions
	• 3 practical	A2: The student identifies Factors affecting Especially seed vitality During storage.	Seed vitality and seed vigor. Factors affecting seed viability during storage (Internal factors and external factors). Theories that explain the causes Seeds lose their vitality.	practical Assignment tasks And report	Short exams Assignment of duty discussions
13	• Theoretical	B2: Explains seed production methods The Apiaceae family	Methods of producing family seeds Apiaceae Methods of producing family seeds Malvaceae Methods of producing family seeds Fabaceae	auditory methods, Writing style on the blackboard Dialogue style Direct slides Power Point	Short exams, assignments, discussions

	• 3 practical	A2: The student identifies Reasons leading to return Sample examination and reasonsThe appearance o deformed seedlings.	Reasons for the appearance of abnormal signs. Mechanical damage to seeds. When will the sample be re-examined? Checking the health status of the seeds (Seed safety).	practical Assignment tasks And report	Short exams Assignment of duty discussion
14	•2 Theoretical	A1: Recognizes belief Seeds	Adoption (seed certification)	auditory methods, Writing style on the blackboard Dialogue style Direct slides Power Point	Short exams, assignments, discussions
	• 3 practical	C4: The student draws Plans Suitable for the movement system In the field upon inspection Al-Haqali	Field inspection. Qualities of the field inspector. Field inspector form paragraphs. Movement system in the field during field inspection. The second monthly test	Discussing student reports	Short exams Assignment of dutydiscussions
15	• 2Theoretical	C3: Field visit to the departments Which is concerned with producing seeds	A field visit	Make a visit report	Final test
	• 3 practical	B1: The student is able to knowledge Extraction methods Seeds from both fruits Soft or dry.	Seed extraction methods. Types of fruits whose seeds are extracted (soft fruits and dry fruits). Types of extraction	Field report	Short exams Assignment of duty discussions

			methods (mechanical extraction, fermentation extraction, acid extraction).		

11. Course Evaluation	
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

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