





### Course Description Form

1. Course Name:					
Horticulture Entomology					
2. Course Code:					
HOEN213					
3. Semester / Year: 2end					
2024-2025					
4. Description Preparation Date: quarterly					
1/2/2025					
5. Available Attendance Forms:					
Groups+ Electronic					
6. Number of Credit Hours (Total) / Number of Units (Total)					
75, 3.5					
7. Course administrator's name (mention all, if more than one name)					
Haitham mohie aldeen mohammad					
Email: <a href="mailto:dr.haithamjalal@uomosul.edu.iq">dr.haithamjalal@uomosul.edu.iq</a>					
Ikhlas's Ziad					
8. Course Objectives					
<ul style="list-style-type: none"> <li>-Enabling the student to understand and comprehend what is related to insects of horticultural plants and insects vegetable crops</li> <li>- The student can identify the types of insects spread in fruit orchards and vegetable fields.</li> <li>-Enabling the student to distinguish and detect the appearance of infestations in fruit orchards and vegetable fields</li> <li>- Enabling the student to know the most important methods of preventing insects that infect fruit trees and vegetable crops</li> <li>- Enabling the student to become familiar with the most important methods of controlling garden insects and vegetable crop insects</li> </ul>					
9. Teaching and Learning Strategies					
Strategy		theoretical: - Interactive lecture - Brainstorming - Assigning tasks and reporting - Dialogue and discussion			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical: a1 The student knows the importance of studying entomology	- Introduction to entomology	Theoretical: methods	(Conducting short tests, first final

		<p>a2 Gives examples of the benefits and harms of insects b1 Lists the factors that helped the spread of insects</p> <p>Practical: a1 The student remembers the characteristics of the insect class, the divisions of the insect's body, the head, and its appendages</p>	<ul style="list-style-type: none"> <li>- Factors that helped the spread of insects</li> <li>- Pests, their types and damage</li> <li>- Benefits and harms of insects</li> </ul> <p><b>-Practical</b></p> <ul style="list-style-type: none"> <li>- Features of insect class</li> <li>- Insect body sections</li> <li>- The head and its appendages</li> </ul>	<p>Audio writing style On the blackboard, direct dialogue style</p> <p>Practical: Assigning tasks and reporting</p>	<p>semester), assigning an assignment, discussions</p>
	2 3	<p>Theoretical: a2 The student reviews the life characteristics of insects, their mating methods, and their methods of reproduction. a4 Compares the larva and the nymph b2 Explains the meaning of hibernation in insects and its types</p> <p>Practical: a2 The student reviews the life characteristics of insects, mating in insects and their methods of reproduction, types of hibernation in insects.</p>	<ul style="list-style-type: none"> <li>- Life characteristics of insect</li> <li>- Develop the egg</li> <li>- The nymph stage and the larval stage</li> <li>- The pupal stage</li> <li>- Complete insect stage</li> <li>- Mating in insects</li> <li>- Methods of reproduction</li> </ul> <p>Types of hibernation in insects.</p> <p><b>-Practical</b></p> <ul style="list-style-type: none"> <li>- The Thorax and its appendages</li> </ul>	<p>Theoretical: methods</p> <p>Audio writing style On the blackboard, direct dialogue style</p> <p>Practical: Assigning tasks and reporting</p>	<p>(Conducting short tests, first final semester), assigning an assignment, discussions</p>
3	2 3	<p>Theoretical: a2 The student familiarizes himself with the basics of pest control a4 Compares pest control methods in terms of importance and harm to the environment.</p> <p>Practical: a3 The student discusses the abdominal area, its appendages, and the types of metamorphosis or metamorphosis in insects</p>	<ul style="list-style-type: none"> <li>- Basics of pest control</li> <li>- Pest control methods</li> </ul> <p><b>-Practical</b></p> <ul style="list-style-type: none"> <li>- The abdomen and its appendages</li> <li>-Metamorphoses in insects</li> </ul> 	<p>Theoretical: methods</p> <p>Audio writing style On the blackboard, direct dialogue style</p> <p>Practical: Assigning tasks and reporting</p>	<p>(Conducting short tests, first final semester), assigning an assignment, discussions</p>
4	2 3	<p>Theoretical: a1 Identify the insects that infect apple trees b1 shows the signs of apple insect infestation B4: Recommended type of control for apple insects</p> <p>Practical: b2 Assess apple insects, observing the appearance of the infestation and damage, and describing the insect</p>	<ul style="list-style-type: none"> <li>- Fruit tree insects</li> <li>- Apple tree insects</li> </ul> <p><b>-Practical</b></p> <ul style="list-style-type: none"> <li>- (Apple insects)</li> <li>- Appearance of infestation, damage, and description of the insect</li> </ul>	<p>Theoretical: methods</p> <p>Audio writing style On the blackboard, direct dialogue style</p> <p>Practical: Assigning tasks and reporting</p>	<p>(Conducting short tests, first final semester), assigning an assignment, discussions</p>

5	2 3	<p>Theoretical: a1: Remember the most important types of insects that infect olives :b2 Explains the signs of olive insect infestation, and pistachio and green bean tree insects</p> <p>Practical: d1 classifies olive tree insects, pistachio tree insects, and green bean tree insects in terms of appearance of infestation, damage, and description of insects.</p>	<p>- Olive tree insects - Insects of pistachio and green bean trees <b>-Practical</b> (Olive insects, pistachio insects, and green bean insects) - Appearance of injury and damage</p>	<p>Theoretical: methods Audio writing style On the blackboard, direct dialogue style Practical: Assigning tasks and reporting</p>	<p>(Conducting short tests, first final semester), assigning an assignment, discussions</p>
6	2 3	<p>Theoretical: a2 gives examples of the most important grape insects :c1: Decide which methods are best for combating the grape worm</p> <p>Practical: c2 divides grapevine insects based on the appearance of the infestation, damage, and description of the insect</p>	<p>- Grape insects <b>-Practical</b> - (Grape insects) - Appearance of infestation, damage, and description of the insect</p>	<p>Theoretical: methods Audio writing style On the blackboard, direct dialogue style Practical: Assigning tasks and reporting</p>	<p>(Conducting short tests, first final semester), assigning an assignment, discussions</p>
7	2 3	<p>Theoretical: a2 explains the life cycle of the most important insects in peaches, apricots, and pears : c1 The student explains methods of controlling stone fruit tree insects</p> <p>Practical: d2 The student collects stone fruit tree insects and distinguishes between the appearance of the infestation and the damage caused by the insect and a description of the insect.</p>	<p>Stone fruit tree insects <b>-Practical</b> - (stone fruit tree insects) - Appearance of infestation, damage, and description of t insect</p> 	<p>Theoretical: methods Audio writing style On the blackboard, direct dialogue style Practical: Assigning tasks and reporting</p>	<p>(Conducting short tests, first final semester), assigning an assignment, discussions</p>
8	2	<p>theoretical: a4 The student compares pomegranate insects and fig insects a4: Summarizes the appearance of the infestation and the control method for the most important pomegranate insects</p> <p>Practical: c3 The student divides pomegranate insects and fig insects based on the appearance of the</p>	<p>- Pomegranate insects - Fig insects <b>-Practical</b> - (Pomegranate insects and fig insects) - Appearance of infestation, damage, and description of the insect</p>	<p>Theoretical: methods Audio writing style On the blackboard, direct dialogue style Practical: Assigning tasks and reporting</p>	<p>(Conducting short tests, first final semester), assigning an assignment, discussions</p>

		infestation, damage, and description of the insect.			
9	2 3	Theoretical: b5 chooses the best method for controlling citrus mealybugs b4: distinguishes citrus insects and palm insects  Practical: b4 Demonstrates the student's skills in distinguishing between the appearance of infestation, damage, and insect description of citrus insects and palm insects.	- Citrus insects - Palm insects <b>-Practical</b> - (Citrus insects palm insects) - Appearance of infestation, damage, and description of the insect	Theoretical: methods Audio writing style On the blackboard, direct dialogue style Practical: Assigning tasks and reporting	(Conducting short tests, second final semester), assigning an assignment, discussions
10	2 3	Theoretical: b5: Differentiate between methods of controlling pests of the leguminous family b5 Identify vegetable insects, insects of the leguminous family  Practical: b3 Distinguish between insects of the leguminous family in terms of the appearance of the infestation, damage, and description of the insect	- Vegetable insects - Insects of the legume family <b>-Practical</b> - (insects of the leguminous family) - Appearance of infestation, damage, and description of the insect	Theoretical: methods Audio writing style On the blackboard, direct dialogue style Practical: Assigning tasks and reporting	(Conducting short tests, second final semester), assigning an assignment, discussions
11	2 3	Theoretical: b1 List the types of insects of the squash family and the cruciferous family insects b5: It extracts any weak stages of vegetable insects and thus targets them in the control process  Practical: b3 Distinguish between the appearance of the infestation, the damage, and the description of the insect for both insects of the cucurbit family and insects of the cruciferous family.	- Insects of the squash family - Insects of the cruciferous family <b>-Practical</b> - (insects of the Cucurbitaceae family and the Brassicaceae family) - Appearance of infestation, damage, and description of the insect	Theoretical: methods Audio writing style On the blackboard, direct dialogue style Practical: Assigning tasks and reporting 	(Conducting short tests, second final semester), assigning an assignment, discussions
12	2 3	Theoretical: d3 classifies insects of the Solanaceae family  Practical: d2 Groups insects of the Solanaceae family based on the appearance of the infestation, damage, and description of the insect	- Insects of the <b>Solanaceae</b> family <b>-Practical</b> - (Insects of the Solanaceae family) - Appearance of infestation, damage, and description of the insect	Theoretical: methods Audio writing style On the blackboard, direct dialogue style Practical: Assigning tasks and reporting	(Conducting short tests, second final semester), assigning an assignment, discussions
13	2 3	Theoretical: c1: The student decides which insects are most economically important: the marshmallow	- Insects of the Chenopodiaceae family - The Ramadan family - Lily family	Theoretical: methods Audio writing style On the blackboard, direct dialogue style	(Conducting short tests, second final semester),

		family, the lily family, and the saprophytic family.  Practical: d1 classifies insects into the marshmallow family, the saprophytic family, and the lily family, depending on the appearance of the infestation, damage, and description of the insect.	<b>-Practical</b> - (Insects of the Malvaceae family, the saprophytic family, and the liliaceae family) - Appearance of infestation, damage, and description of the insect	Practical: Assigning task and reporting	assigning an assignment, discussions
14	2 3	Theoretical: b4 The student identifies insects of ornamental plants and insects of horticultural plants b4: Recommend the best method for controlling insects that infect ornamental plants  Practical: e1 gives a clear description of ornamental and horticultural plant insects through the appearance of infestation, damage, and description of the insect.	- Ornamental plant insects - Insects of horticultural plants <b>-Practical</b> - (Insects of ornamental plants, insects of horticultural plants) - Appearance of infestation, damage, and description of the insect	Theoretical: methods Audio writing style On the blackboard, direct dialogue style Practical: Assigning tasks and reporting 	(Conducting short tests, second final semester), assigning an assignment, discussions
15	2 3	Theoretical: A field visit to fruit orchards, vegetable crop fields, and nurseries  Practical: Field visit to fruit orchards, vegetable crop fields, and nurseries	- A field visit to fruit orchards, vegetable crop fields, and nurseries  A field visit to fruit orchards, vegetable crop fields, and nurseries	Theoretical: preparing a report Practical: Preparing a report	(Conduct a report, final test)

#### 11. Course evaluation

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

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#### 12. Learning and teaching resources

14	- Orchard insects book - Book of Economic Insects in Northern Iraq - Book of field crop insects
15	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

  
Haitham mohie aldeen mohammad

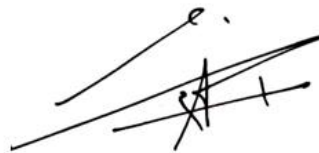
Subject teacher

  
Ziad



Chairman of the Scientific Committee

Prof. Dr. Jassim Mohammed Alwan



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