

## Course Description Form

<b>1. Course Name:</b>	
Entomological principles	
<b>2. Course Code:</b>	
PREN128	
<b>3. Semester / Year:</b>	
1 <sup>st</sup>	
<b>4. Description Preparation Date:</b>	
quarterly 1/2/2024	
<b>5. Available Attendance Forms:</b>	
Groups	
<b>6. Number of Credit Hours (Total) / Number of Units (Total)</b>	
75 hours / 3.5 units	
<b>7. Course administrator's name (mention all, if more than one name)</b>	
Name: dr. rena reiyadh faleh Email: <a href="mailto:renna.reyadh@uomosul.edu.iq">renna.reyadh@uomosul.edu.iq</a>	
<b>8. Course Objectives</b>	
<p><b>Theoretical:</b></p> <ul style="list-style-type: none"> <li>- Enabling the student to understand and comprehend what is related to insects and their relationship with humans and their domestic animals.</li> <li>- Enable the student to distinguish between the harms and benefits of insects to humans.</li> <li>- Enabling the student to know the areas of the insect's body.</li> <li>- Enabling the student to become familiar with the various insect body appendages and the usefulness of these appendages for distinguishing between different types of insects.</li> </ul>	<p><b>Practical:</b></p> <ul style="list-style-type: none"> <li>- Enabling the student to become familiar with the most important laboratory methods for identifying and distinguishing between insect body parts through various practical experiments</li> </ul>
<b>9. Teaching and Learning Strategies</b>	
<p><b>Theoretical:</b></p> <ul style="list-style-type: none"> <li>- Interactive lecture</li> <li>- Brainstorming</li> <li>- Assignment of tasks and report</li> <li>- Presentations of models of insects found in the environment</li> <li>- Displaying models of mutations of insect body parts and distinguishing between mutations of different body</li> </ul>	<p><b>Practical:</b></p> <ul style="list-style-type: none"> <li>- Commissioning teamwork to uncover leadership skills</li> <li>- Assignment of tasks and report for each experience</li> </ul>

regions.

- Dialogue and discussion

10. Course Structure

We ek	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2 <b>Theoretical</b>  3 <b>Practical</b>	<b>Theoretical a1:</b> Distinguishes the relationship of insects to humans and the taxonomic position of insects, in addition to the characteristics of the arthropod phylum, and the characteristics of the insect class. <b>Practical b1:</b> collects insects from the field	<b>Theoretical:</b> Introduction to insects and their relationship to humans, the taxonomic position of insects in the animal world, features of the arthropod phylum, features of the class of insects.  <b>Practical:</b> Collect insects from the field	<b>Theoretical:</b> Audio Methods Writing Style On the board direct dialogue style  <b>Practical:</b> Assignment and reporting	Short Tests, Duty Assignment, Discussions
2	2 <b>Theoretical</b>  3 <b>Practical</b>	<b>Theoretical b2:</b> explains the factors that helped insects to spread, the most important classes of the arthropod phylum, and the characteristics of the insect class <b>Practical a2:</b> Knowledge of methods of killing insects	<b>Theoretical:</b> The importance of insects, their harms and benefits, the distribution and spread of insects, the factors that helped the spread of insects  <b>Practical:</b> Kill insects.	<b>Theoretical:</b> Audio Methods Writing Style On the board direct dialogue style  <b>Practical:</b> Assignment and reporting	Short Tests, Duty Assignment, Discussions
3	2 <b>Theoretical</b>  3 <b>Practical</b>	<b>Theoretical b3:</b> Judges insects' external appearance, body wall, structure and function <b>Practical a3:</b> Learn about methods of preserving insects (insect hardening)	<b>Theoretical:</b> External appearance of insects, body wall, structure and function.  <b>Practical:</b> Method of preserving insects (insect hardening)	<b>Theoretical:</b> Audio Methods Writing Style On the board direct dialogue style  <b>Practical:</b> Assignment and reporting	Short Tests, Duty Assignment, Discussions
4	2 <b>Theoretical</b>	<b>Theoretical a2:</b> Familiarity with the changes of cuticles, cuticle appendages, insect colors and their functions	<b>Theoretical:</b> Cuticle mutations, cuticle appendages, insect color and their functions.	<b>Theoretical:</b> Audio Methods Writing Style On the board direct dialogue style	Short Tests, Duty Assignment, Discussions

	<b>3 Practical</b>	<b>Practical b4:</b> Distinguishes the external appearance of insects, body plates and walls	<b>Practical:</b> External appearance of insects, plates and body wall.	<b>Practical:</b> Assignment and reporting	
5	<b>2 Theoretical</b>  <b>3 Practical</b>	<b>Theoretical b5:</b> suggested to identify moulting in insects and cuticle formation  <b>Practical c1:</b> Recognizes the insect body parts and the insect head	<b>Theoretical:</b> Moulting in insects and cuticle formation  <b>Practical:</b> Insect body parts, insect head.	<b>Theoretical:</b> Audio Methods Writing Style On the board direct dialogue style  <b>Practical:</b> Assignment and reporting	Short Tests, Duty Assignment, Discussions
6	<b>2 Theoretical</b>  <b>3 Practical</b>	<b>Theoretical c1:</b> Recognizes the body's area, the head and its appendages, the antennae, function and their various modifications, and the eyes  <b>Practical b6:</b> It detects the insect's head and its location on the body, head appendages, and types of antennae	<b>Theoretical:</b> Regions of the body in insects, the head and its appendages, antennae, function and their various mutations.  <b>Practical:</b> Insect head, its location on the body, head appendages, types of antennae.	<b>Theoretical:</b> Audio Methods Writing Style On the board direct dialogue style  <b>Practical:</b> Assignment and reporting	Short Tests, Duty Assignment, Discussions
7	<b>2 Theoretical</b>  <b>3 Practical</b>	<b>Theoretical c1:</b> Recognizes the positions of the head in relation to the position of the body and the mutations of the mouth parts in insects  <b>Practical b7:</b> Examines the parts of the mouth and its appendages	<b>Theoretical:</b> Mutations of mouthparts in insects  <b>Practical:</b> Mouth parts and their modifications	<b>Theoretical:</b> Audio Methods Writing Style On the board direct dialogue style  <b>Practical:</b> Assignment and reporting	Short Tests, Duty Assignment, Discussions
8	<b>2 Theoretical</b>	<b>Theoretical a3:</b> Recognizes the	<b>Theoretical:</b> Thorax, thorax appendages,	<b>Theoretical:</b> Audio Methods Writing Style	Short Tests, Duty

	<b>3 Practical</b>	thorax, chest appendages, legs, function and their modifications <b>Practical b8:</b> Writes a report on the chest area and its appendages, legs and their types	legs, function and their modifications <b>Practical:</b> Thorax and its appendages, the legs and their types	Style On the board direct dialogue style <b>Practical:</b> Assignment and reporting	Assignment, Discussions
9	<b>2 Theoretical</b>  <b>3 Practical</b>	<b>Theoretical a3:</b> Learn about wings, their structure and modifications, wing veining, wing attachment devices, and flight mechanics. <b>Practical b9:</b> Draws wings and their types, and uses a wing-flapping machine	<b>Theoretical:</b> Wings, wing structure, wing veins, wing modifications, wing clamping devices, flight mechanics <b>Practical:</b> The thorax and its appendages, the wings and their types, the machine for clasping the wings	<b>Theoretical:</b> Audio Methods Writing Style On the board direct dialogue style <b>Practical:</b> Assignment and reporting	Short Tests, Duty Assignment, Discussions
10	<b>2 Theoretical</b>  <b>3 Practical</b>	<b>Theoretical:</b> Field visit <b>Practical:</b> Field visit	<b>Theoretical:</b> Field visit <b>Practical:</b> Field visit	<b>Theoretical:</b> a reporting <b>Practical:</b> a reporting	Short Tests, Duty Assignment, Discussions
11	<b>2 Theoretical</b>  <b>3 Practical</b>	<b>Theoretical a3:</b> Identify the abdomen and its appendages <b>Practical c10:</b> Participates in examining the abdominal area	<b>Theoretical:</b> Abdomen, abdominal appendages, asexual and sexual appendages. <b>Practical:</b> Abdomen	<b>Theoretical:</b> Audio Methods Writing Style On the board direct dialogue style <b>Practical:</b> Assignment and reporting	Short Tests, Duty Assignment, Discussions
12	<b>2 Theoretical</b>  <b>3 Practical</b>	<b>Theoretical b11:</b> Proficient in identifying the life history of insects and the stages of insect development <b>Practical b12:</b> links reproduction and growth	<b>Theoretical:</b> Life history of insects, insect stages, insect eggs, larvae and their types <b>Practical:</b> Reproduction and growth in insects	<b>Theoretical:</b> Audio Methods Writing Style On the board direct dialogue style. <b>Practical:</b> Assignment and reporting	Short Tests, Duty Assignment, Discussions
13	<b>2 Theoretical</b>	<b>Theoretical d1:</b> Discussions will be held on the nymphal and pre-pupal stages, types of pupae, and the	<b>Theoretical:</b> Nymphal stages, pre-pupal stages, pupal types (cocoon), full stage.	<b>Theoretical:</b> Audio Methods Writing Style On the board direct dialogue style	Short Tests, Duty Assignment, Discussions

	<b>3 Practical</b>	pupal stage <b>Practical b10:</b> Participates in a panel discussion about transformation and its types	<b>Practical:</b> Metamorphosis and its types	<b>Practical:</b> Assignment and reporting	
14	<b>2 Theoretical</b>  <b>3 Practical</b>	<b>Theoretical b13:</b> Shows the types of morphology or transformation in insects, and the orders of insects  <b>Practical c2:</b> Ability to distinguish between incomplete stages	<b>Theoretical:</b> Evolution in insects, types of evolution in insects, orders of insects  <b>Practical:</b> Imperfect stages	<b>Theoretical:</b> Audio Methods Writing Style On the board direct dialogue style  <b>Practical:</b> Assignment and reporting	Short Tests, Duty Assignment, Discussions
15	<b>2 Theoretical</b>  <b>3 Practical</b>	<b>Theoretical:</b> Field visit <b>Practical:</b> Field visit	<b>Theoretical:</b> Field visit <b>Practical:</b> Field visit	<b>Theoretical:</b> a reporting <b>Practical:</b> a reporting	Short Tests, Duty Assignment, Discussions

### 11. Course Evaluation

	Calendar Methods	Calendar Date (Week)	Grade	Relative Weight%
1	Theoretical Final Report + Practical Experience Reports	Theoretical week 15 practical week 1-15	7 Theoretical + 6 Practical	13%
2	Short Test (1) Quiz	Week (2-5)	4 Theoretical + 2 Practical	6%
3	Midterm Exam half-test (theoretical and practical)	Week (8,14)	10 Theoretical + 5 Practical	15%
4	Short Test (2) Quiz	Week( 9-12)	4 Theoretical + 2 Practical	6%
5	Final Practical Test	20	20	20%
6	Final theoretical test	40	40	40%
			100	

### 12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	- General entomology / Muhammad Fouad Tawfiq
Main references (sources)	- Modern research in the field of insects - Books on the principles of entomology
Recommended books and references (scientific journals, reports...)	- Rev. APPLi. Entomol. - J. Economic Entomology
Electronic References, Websites	- Google research gate. - Google scoler.

Dr. Renna Riadh Faleh

Ekhlās Zyaid Mohamed