

**Department of Biology** 

**College of Science** 

**University of Salahaddin-Hawler** 

Subject: General Entomology

Course Book – (Year 3) -1<sup>st</sup> semester

Lecturer names:

Sarkaut Hussein Muhammed , PhD / Theory

Rezan Aziz Mustafa, M.Sc./ Practical

Academic Year: 2022/2023

# **Course Book**

1. Course name	Entomology (General and systematic classification)	
2. Lecturer in charge	Dr. Sarkaut Hussein Muhammed (Theory)	
	Rezan Aziz Mustafa, M. Sc. (Practical)	
3. Department/ College	Department of Biology/College of Science	
4. Contact	e-mail: sarkaut.muhammed@su.edu.krd	
	rezan.mustafa@su.edu.krd	
5. Time (in hours) per week	Dr. Sarkaut: 2 hrs theoretical & 6 hrs. practical supervision	
6. Office hours	To be Return to the schedule on the office door	
7. Course code	Entomology	
8. Teacher's academic profile	<ul> <li>I graduate from Salahaddin University in 1998 (Ranked 7th in collage) worked as teacher in High school for one year. In 1995 I finished my M.Sc degree and start as Assistant Lecturer Teaching Practical Entomology, Practical Invertebrate Biology, Practical Zoology, Practical Medical Entomology, and Computer science (both Theory and practical).</li> <li>For 3 years I worked as a Member of the Examination Committee for College of Science.</li> <li>In 1998 I teach Histology (both theory and practical) for the 2nd class students in Shaqlawa Technical Institute, Shaqlawa, Iraq.</li> <li>In 2000 I teach Invertebrate (theory) for the 2nd class students in Basic education college, University of Salahaddin-Hawler.</li> <li>In 2009 I get my PhD degree in Economic Entomology and from that time, as a Lecturer, I am in charge in teaching General Entomology theory for 3<sup>rd</sup> class students, Supervising Medical Entomology Practical Laboratory and General Entomology lab.</li> </ul>	
	* In the first course of study year 2018-2019 I teach Zoology for 1 <sup>st</sup> stage (Theory) with supervising practical lab, while in the second year I teach Systematic classification Entomology theory for 3 <sup>rd</sup> class students with supervising practical lab.	
9. Keywords	Insect orders, defense behavior, biological control, life cycles,	
-	important insect vectors	
<ol> <li>Course overview:         <ol> <li>Understand insect adaptation and evolutionary processes.</li> <li>Learn the basic external morphology of insects and how it is used in classification.</li> </ol> </li> </ol>		

- **3.** Learn the basic internal anatomy of insects, and how it is adaptive.
- **4.** Describe the life cycles of important insect groups.
- 5. Understand commonly accepted phylogenetic models for arthropods
- 6. Understand how insects adapt behaviorally and ecologically.
- 7. Understand how insects affect humans medically, economically and socially

#### Ministry of Higher Education and Scientific research **11. Course objective:** Identify terrestrial arthropods to Class by visual inspection. • Identify insects to Order by inspection, and identify common forms to Family. Be able to identify unknown insects by use of standard taxonomic keys. • Apply field-sampling techniques and carry out routine insect surveys. • Collect, process, and prepare insect specimens for scientific study. Make a study collection of insects to learn investigative techniques and identification skills. 12. Student's obligation Exam policy: Student Should take 2 exams during the course There will be no make-up exams for absences students without medical report. **Classroom polices:** 1- Attendance: You are strongly encouraged to attend class on a regular basis, as participation is important to your understanding of the material. This is your opportunity to ask questions. You are responsible for obtaining any information you miss due to absence. 2- Lateness: Lateness to class is disruptive. 3- Electronic devices: All cell phones are to be turned off at the beginning of class and put away during the entire class. 4- Talking: During class please refrain from side conversations. These can be disruptive to your fellow students and your professor 5- No Disrespectful to both the professor and to your fellow students. 6- English language is used in the lectures. Students are expected to answer exam questions in English language only **13.** Forms of teaching Data show (PowerPoint), course book, White board 14. Assessment scheme (second semester course) Component Date Percent --/--/2022 Exam1 45 % Exam2 --/--/2022 45 %

Respecting Classroom Policy10%Total100%

### **15. Student learning outcome:**

After completion of this course, you will be able to:

- Insects and their relatives causation of economic loss, impacts to well-being and transmission of disease pathogens to domestic and companion animals and wildlife, as well as health and well-being of humans through occupational or recreation exposure
- Classification, biology and control of insects and other arthropods associated with livestock and poultry production

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- Impacts of insects and insect-borne diseases on public health
- Integration of principles of animal and plant ecology with environmental factors to characterize wildlife populations.
- External morphology of insects; evolution of form and function
- Physiology of insects; structure and function of internal organ systems and their role in insect success
- Study of the orders and important families of insects and related arthropods, including general biology, relationships with plants and other animals

#### 16. Course Reading List and References:

- 1- **Borror and Dlong's introduction to the study of Insects**, 2004, 7<sup>th</sup> Ed., by Ch. A. Triplehorn, and N. F. Johnson, Thomson.
- 2- **The Insects-Outline of Entomology**, 2005, by P.J. Gullan and P.S. Cranston, 3<sup>rd</sup> Ed. Blackwell Publishing Ltd.
- 3- Biology of Diptera
- 4- C. Gillott (2005) Entomology. 3rd edition

## 17. The Topics:

17. The Topics.		
	Date	Торіс
	Week 1	Importance of Insects
	Week 2	Head
	Week 3	Head + Mouthparts
	Week 4	Integument
	Week 5	Continue the same subject
	Week 6	Morphogenesis-Molting
	Week7	First Examination
	Week 8	Alimentary canal
	Week 9	Digestion
	Week 10	Thorax +Wings
	Week 11	Abdomen
	Week 12	Respiratory system
	Week 13	Nervous system

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	Week	14 Circulatory system	
Week 15		15 Reproductive system	
Week 16		16 Continue the same subject	
Week 1		17 Second Examination	
18. Practical			
	Date	Торіс	
	Week 1	What is an arthropod? Insects and their relatives; Collecting and preserving of insect	
	Week 2	The insect head	
	Week 3	The antennae	
	Week 4	Insect mouth part Mouth part of mature stage 1- Chewing (biting) mouthpart 2 - Sponging (lapping mouth part)	
	Week 5	<b>3-</b> Chewing - sponging mouth part mouth part	
	Week 6		
	Week7	First Examination	
	Week 8	Alimentary canal	
	Week 9	Digestion	
1	Week 10	Thorax +Wings	
1	Week 11	Abdomen	
1	Week 12	Respiratory system	
1	Week 13	Nervous system	
1	Week 14	Circulatory system	
	Week 15	Reproductive system	

	Week 16	Continue the same subject
	Week 17	Second Examination
19. Examina	ations:	
Theory:		
Exams will l	be mixture of the f	ollowing styles:
	iple choice	
2. Short	•	
3. True		
4. Expla		
During Ansv	wering: the studen	t should:
	rstand the question	
2- Answe	er the questions as	ked during the assigned exam time.
3- Answe	er should be precis	e.
Practical:		
1. I identify	: samples.	
2. Composit	t <b>ional:</b> In this type	of exam the questions usually start with Explain how, what
are the reas	ons for? Why?	How?
3. True or f	alse type of exame	5:
	••	hort sentence about a specific subject will be provided, and
		ment on the trueness or falseness of sentence.
4. Multiple		
		e will be several phrases next or below a statement, students
	ll match the correc	t phrase.
20. Extra n	otes:	
21. Peer re	view	
		viewed and signed by a peer. The peer approves the contents of
your course l	book by writing few	sentences in this section.

(A peer is person who has enough knowledge about the subject you are teaching, he/she has to be a professor, assistant professor, a lecturer or an expert in the field of your subject).