



<b>Form: Course Syllabus</b>	<b>Form Number</b>	EXC-01-02-02A
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	<b>Number and Date of Revision or Modification</b>	2/(10/12/2023)
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	<b>Number of Pages</b>	09

1.	<b>Course title</b>	Insect Classification
2.	<b>Course number</b>	0606417
3.	<b>Credit hours</b>	3
	<b>Contact hours (theory, practical)</b>	2 hour lectures, 3 hours lab. / week
4.	<b>Prerequisites/corequisites</b>	General Entomology (6062121)
5.	<b>Program title</b>	Plant Protection
6.	<b>Program code</b>	
7.	<b>Awarding institution</b>	The University of Jordan
8.	<b>School</b>	School of Agriculture
9.	<b>Department</b>	Department of Plant Protection
10.	<b>Course level</b>	4th year
11.	<b>Year of study and semester (s)</b>	Second Semester 2024/2025
12.	<b>Other department (s) involved in teaching the course</b>	
13.	<b>Main teaching language</b>	English
14.	<b>Delivery method</b>	<input type="checkbox"/> Face to face learning <input type="checkbox"/> Blended <input type="checkbox"/> Fully online
15.	<b>Online platforms(s)</b>	<input type="checkbox"/> Moodle <input checked="" type="checkbox"/> Microsoft Teams <input type="checkbox"/> Skype <input type="checkbox"/> Zoom <input type="checkbox"/> Others.....
16.	<b>Issuing/Revision Date</b>	18/2/2025



### 17. Course Coordinator:

Name: Prof. Ahmad Katbeh Contact hours: 10:30 to 11:30 Tuesday and Thursday or by appointment  
Office number: Office number: 260 Phone number: 22521  
Email: Ahmadk@ju.edu.jo

### 18. Other Instructors:

Name: Eng. Wafa Nasir, Lab instructor  
Office number: 40  
Phone number: 22521  
Email: W.nasir@ju.edu.jo  
Contact hours: Monday 11-3

### 19. Course Description:

This is a basic course in the principles of insect taxonomy and biology of the most common insects. Emphasis is placed upon identification of adult insects and important aspect of their biology such as life cycles, habitat preference, feeding habits, adaptation to environments, and function in ecosystems. The student will learn how to collect, preserve, pin, label, and identify insects. Upon the completion of this course the student should be able to identify basic morphological characters of adult insects, identify all insect orders on sight, identify most insect common insects to family on sight, and identify most families using taxonomic keys and microscope.

### 20. Program Intended Learning Outcomes: (To be used in designing the matrix linking the intended learning outcomes of the course with the intended learning outcomes of the program)

#### A- Aims:

1. Study insect taxonomy and important biological aspects of the most common insect families.
2. Identification of adult insects.
3. Collect, preserve, pin, label and identify insects to the family level.
4. Identify morphological characters of adult insect families.

### 21. Course Intended Learning Outcomes: (Upon completion of the course, the student will be able to achieve the following intended learning outcomes)

#### A. Knowledge and Understanding: Student is expected to

- A1. Know what insects are, their morphology, biology, ecology and taxonomy.



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A2. Know what external morphological structures used in classification and identification.

**B. Intellectual Analytical and Cognitive Skills:** Student is expected to

B1 Recognize Key characters of insect orders and families

B2 Understand theories of insect taxonomy

**C. Subject- Specific Skills:** Students is expected to

C1 Understand methods of insect collecting and preservation

C2 Evaluate different methods of collection tools

C3 Diagnose different Jordanian insect families

**D. Transferable Key Skills:** Students is expected to

D1 Integrate different methods of insect identification

D2 Distinguish common Jordanian insect families by sight and or by microscope and identification keys

D3 Work within a team

Program Learning Outcomes (PLOs)

After the successful completion of this program student should be able to:

1. Demonstrate a depth in understanding of the fundamental knowledge and skills required in the field of Plant Protection sciences, which include weeds, insects, mites, fungi, bacteria, viruses and nematodes.
2. Identify and distinguish harmful and beneficial weeds, insects, mites, fungi, bacteria, and nematodes.
3. Predict the outbreaks of pests and determine the level of infection based on skills gained in the field of Plant Protection Sciences.
4. Recognize different techniques (biological, chemical, cultural, and physical) in pest control.
5. Design and develop appropriate management strategies of pests in an environmentally friendly manner.
6. Participate efficiently in agricultural projects in the field of pest management in various public and private sectors in Jordan and worldwide.
7. Communicate effectively in written, oral, and graphical forms.
8. Employ the gained skills in communication and serving different communities.
9. Commit to ethics and compliance responsibilities for being an agricultural engineer, especially with regard to agricultural sector, environment and society.



**22. The matrix linking the intended learning outcomes of the course with the intended learning outcomes of the program:**

PLOs	1	2	3	4	5	6	7	8	9
CLO'S of the course									
A1. Know what insects are, their morphology, biology, ecology and taxonomy.	√	√	√						
A2. Know what external morphological structures used in classification and identification	√	√							
B1 Recognize Key characters of insect orders and families	√	√							
B2 Understand theories of insect taxonomy	√								
C1 Understand methods of insect collecting and preservation			√	√					
C2 Evaluate different methods of collection tools			√	√	√				
C3 Diagnose different Jordanian insect families		√							
D1 Integrate different methods of insect identification	√				√				
D2 Distinguish common Jordanian insect families by sight and or by microscope and identification keys	√								
D3 Work within a team							√	√	√



### 23. Topic Outline and Schedule:

Week	Lecture	Topic	Intended Learning Outcome	Learning Methods (Face to Face/Blended/ Fully Online)	Platform	Synchronous / Asynchronous Lecturing	Evaluation Methods	Resources
1	1.1	Introduction to Insect Taxonomy, History of theories of systematics	B2	Face to Face		Synchronous	Exams or quizzes	Chapter 3 in Borror and Delong's Introduction to the Study of Insects
	1.2							
	1.3	(Lab) Insect Collection and preservation	C1-2	Face to Face		Synchronous	Exams or quizzes or Collection	Chapter 35 in Borror and Delong's Introduction to the Study of Insects
2	2.1	Modes of speciation, taxonomic procedures, taxonomic publications, international code of zoological nomenclature, zoogeographic regions of the world.	B2	Face to Face		Synchronous	Exams or quizzes	Chapter 3 in Borror and Delong's Introduction to the Study of Insects
	2.2							
	2.3	(Lab) Insects Orders	A2, B2, D3.	Face to Face		Synchronous	Exams or quizzes or Collection	Chapter 6 in Borror and Delong's Introduction to the Study of Insects
3	3.1	Classifications of the Hexapoda, insect orders characters and phylogeny	A1,2. B1.	Face to Face		Synchronous	Exams or quizzes	Chapters 6 in Borror and Delong's Introduction to the Study of Insects
	3.2							
	3.3	(Lab) Order Odonata: Dragonflies and Damselflies.	B1, B2, C3, D2, D3.	Face to Face		Synchronous	Exams or quizzes or Collection	Odonata of the Levant
4	4.1	Entognathous Hexapods (Protura, Collembola, Diplura) and the Apterygote Insects (Microcoryphia and Thysanura)	A1-2, B1-2, C1-C3, D1-D3	Face to Face		Synchronous	Exams or quizzes	Chapters 7&8 in Borror and Delong's Introduction to the Study of Insects
	4.2							
	4.3	(Lab) Order Orthoptera: Grasshoppers,	B1, B2, C3, D2, D3	Face to Face		Synchronous	Exams or quizzes or	Chapters 11 in Borror and



		crickets, katydids.Order Dermaptera: Earwigs. .					Collection	Delong's Introduction to the Study of Insects "A taxonomic study on the
5	5.1	Ephemeroptera, Odonata, Orthoptera	A1-2, B1-2, C1-C3, D1- D3	Face to Face		Synchronous	Exams or quizzes	Chapters 9, 10 & 11 in Borror and Delong's Introduction to the Study of Insects
	5.2							
	5.3	<b>(Lab)</b> Order Mantodea: Mantids. Order Blattodea: Cockroaches Order	B1, B2, C3, D2, D3	Face to Face		Synchronous	Exams or quizzes or Collection	Matodea of Jordan". & Chapters 21 in Borror and Delong's Introduction to the Study of Insects
6	6.1	Phasmatodea, Grylloblattodea, Mantophasmatodea, Deramptera, Plecoptera	A1-2, B1-2, C1-C3, D1- D3	Face to Face		Synchronous	Exams or quizzes	Chapters 17,18,19, 20 & 21 in Borror and Delong's Introduction to the Study of Insects
	6.2							
	6.3	Eid Al Fitr Holiday						
7	7.1	Embiidina, Zoraptera, Isoptera, Mantodea, Blattodea	A1-2, B1-2, C1-C3, D1- D3	Face to Face		Synchronous	Exams or quizzes	Chapters 17,18,19, 20 & 21 in Borror and Delong's Introduction to the Study of Insects
	7.2							
	7.3	<b>(Lab)</b> Order Hemiptera (Suborder Homoptera): Cicadas, Hoppers, Aphids, Psyllids, Whiteflies and Scale Insects (Part 1).	B1, B2, C3, D2, D3	Face to Face		Synchronous	Exams or quizzes or Collection	Chapters 22 in Borror and Delong's Introduction to the Study of Insects
8	8.1	Hemiptera	A1-2, B1-2, C1-C3, D1- D3	Face to Face		Synchronous	Exams or quizzes	Chapters 22 in Borror and Delong's Introduction to the Study of Insects
	8.2							
	8.3	<b>(Lab)</b> Order Hemiptera (Suborder Homoptera): Cicadas, Hoppers, Aphids, Psyllids, Whiteflies and Scale	B1, B2, C3, D2, D3	Face to Face		Synchronous	Exams or quizzes or Collection	Chapters 22 in Borror and Delong's Introduction to the Study of Insects



		Insects (Part 1).						
	8.3	(Lab) Order Coleoptera: Beetles and weevils (part 2)	B1, B2, C3, D2, D3	Face to Face		Synchronous	Exams or quizzes or Collection	Chapters 26 in Borror and Delong's Introduction to the Study of Insects
9	9.1	Thysanoptera, Psocoptera, Phthiraptera	A1-2, B1-2, C1-2, D2	Face to Face		Synchronous	Exams or quizzes	Chapters 23, 24 & 25 in Borror and Delong's Introduction to the Study of Insects
	9.2							
	9.3	<u>Mid-term Lab. Exam</u>						
10	10.1	Coleoptera	A1-2, B1-2, C1-C3, D1- D3	Face to Face		Synchronous	Exams or quizzes	Chapters 26 in Borror and Delong's Introduction to the Study of Insects
	10.2							
	10.3							
11	11.1	Coleoptera, Neuroptera	A1-2, B1-2, C1-C3, D1- D3	Face to Face		Synchronous	Exams or quizzes	Chapters 26& 27 in Borror and Delong's Introduction to the Study of Insects
	11.2							
	11.3	(Lab) Order Coleoptera: Beetles and weevils (part 2)	B1, B2, C3, D2, D3	Face to Face		Synchronous	Exams or quizzes or Collection	Chapters 26 in Borror and Delong's Introduction to the Study of Insects
12	12.1	Hymenoptera	A1-2, B1-2, C1-C3, D1- D3	Face to Face		Synchronous		Chapter 28 in Borror and Delong's Introduction to the Study of Insects
	12.2							
	12.3	(Lab) Order Neuroptera: Antlions, Snakeflies, Lacewings, Mantidflies Order Hymenoptera: Ants, Bees, Wasps and Sawflies	B1, B2, C3, D2, D3	Face to Face		Synchronous	Exams or quizzes or Collection	Chapter 27 & 28 in Borror and Delong's Introduction to the Study of Insects
13	13.1	Trichoptera Lepidoptera	A1-2, B1-2, C1-C3, D1- D3	Face to Face		Synchronous	Exams or quizzes	Chapters 29 & 30 in Borror and Delong's Introduction to the Study
	13.2							



								of Insects
	13.3	(Lab) Order Lepidoptera: Moths, Butterflies Order Diptera: Flies Submitting Insect Collection	B1, B2, C3, D2, D3	Face to Face		Synchronous	Exams or quizzes or Collection	Chapters 30 & 34 in Borror and Delong's Introduction to the Study of Insects
14	14.1	Siphonaptera, Mecoptera, Strepsiptera	A1-2, B1-2, C1-C3, D1- D3	Face to Face		Synchronous	Exams or quizzes	Chapters 31, 32& 33 in Borror and Delong's Introduction to the Study of Insects
	14.2							
	14.3	Submitting Insect Collection						
15	15.1	Diptera	A1-2, B1-2, C1-C3, D1- D3	Face to Face		Synchronous	Exams or quizzes	Chapter 34 in Borror and Delong's Introduction to the Study of Insects
	15.2							
	15.3	Final Lab Exam						

## 24. Evaluation Methods:

Opportunities to demonstrate achievement of the ILOs are provided through the following assessment methods and requirements:

Evaluation Activity	Mark	Topic(s)	SLOs	Period (Week)	Platform
First Lab. Exam	10%	Lab material	2.3.4.7.8.9	22/4/2025	Face to Face
Midterm Exam	20%	Lecture material	1.4.7.8.9	24/4/2025	Face to Face
Insect Collection	20%		2.3.4. 5.7.8.9, 10	27/5/2025	Face to Face
Final Lab. Exam	10%	Lab material	1-9	3/6/2025	Face to Face
Quizzes	10%	Either lab or lecture material	1-9	Various dates	Face to Face
Final Exam	30%	All the lecture material	1-9	As announced by Registration Department	Face to Face

## 25. Course Requirements:

Class room, laboratory with stereomicroscopes

## 26. Course Policies:





- A- Attendance policies: According to the university regulations
- B- Absences from exams and submitting assignments on time: According to the university regulations
- C- Health and safety procedures: : According to the university regulations
- D- Honesty policy regarding cheating, plagiarism, misbehavior: According to the university regulations
- E- Grading policy:
- F- Available university services that support achievement in the course: Microsoft teams, E-learning plat forms.

## 27. References:

- A- Required book(s), assigned reading and audio-visuals:  
Borror. D. J. C. A. Triplehorn, and N. F. Johnson. 2005. Borror and Delong's An Introduction to the Study of Insects. 7th Edition. USA. Philadelphia. PA. Saunders Publishing Company. 865 PP.
- B- Recommended books, materials, and media:  
Chinery, M. 2012. Insects of Britain and Western Europe: 3rd Edition (Field Guide).
- Internet resources:  
ELearning website of the University of Jordan.  
Tree of life web project at: <http://tolweb.org/Arthropoda/>

## 28. Additional information:

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Name of the Instructor or the Course Coordinator:  
Ahmad Katbeh

Signature:  
*Ahmad Katbeh*

Date:  
18/2/2025

Name of the Head of Quality Assurance Committee/  
Department

Signature:

Date:

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Name of the Head of Department

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Signature:

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Date:

Name of the Head of Quality Assurance Committee/  
School or Center

Signature:

Date:

.....  
Name of the Dean or the Director

.....  
Signature:

.....  
Date: