



Course Syllabus

1.	Course title	Advanced Insect Taxonomy	
2.	Course number	606952	
3.	Credit hours	3	
	Contact hours (theory, practical)	2 hour lectures, 3 hours lab. / week	
4.	Prerequisites/corequisites		
5.	Program title	Plant Protection	
6.	Program code		
7.	Awarding institution	The University of Jordan	
8.	School	School of Agriculture	
9.	Department	Department of Plant Protection	
10.	Course level	PHD	
11.	Year of study and semester (s)		
12.	Other department (s) involved in teaching the course		
13.	Main teaching language	English	
14.	Delivery method	<input checked="" type="checkbox"/> Face to face learning <input type="checkbox"/> Blended <input type="checkbox"/> Fully online	
15.	Online platforms(s)	<input type="checkbox"/> Moodle <input checked="" type="checkbox"/> Microsoft Teams <input type="checkbox"/> Skype <input type="checkbox"/> Zoom <input type="checkbox"/> Others.....	
16.	Issuing/Revision Date	19/12/2024	

17 Course Coordinator:

Name: Prof. Ahmad Katbeh	Contact hours: Sunday 12-2, Tuesday 12-2 and/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: Sunday 9-3, Monday 11-12

19 Course Description:

This course deals with systematic entomology, including nomenclatural terms and definitions, systematic literature, taxonomic procedures, use and construction of identification keys, diagnostic morphological features of insect families. Collection and preservation of insect is required.



20 Course aims and outcomes:

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, in addition to identification of certain insect groups to the specific level.
4. Identify morphological characters of adult insects' families.

B- Students Learning Outcomes (SLOs):

Upon successful completion of this course, students will be able to:

PLOs	1	2	3	4	5	6	7	8	9	10	11
SLOs of the course											
A1. The basic insect morphology	√	√	√	√	√				√		√
A2. Identification of insect orders and families and some aspects of their biology and ecology.	√	√	√		√			√	√		√
B1. Recognize the different groups of insects and their function in the ecosystems.	√	√	√		√			√	√		√
B2. Recognize the different insect structures and their role in insect identification.	√	√	√		√			√	√		√
C1. Study the external morphology of insects.	√	√	√		√		√		√	√	√
C2. Identify insects to family level by sight and to genera or species by traditional or interactive keys.	√	√	√		√		√		√	√	√
C3. Collecting, pinning, labeling and preserving insects.	√	√	√		√		√		√	√	√
D1. Recognize the morphological features of insect	√	√	√	√	√		√	√	√		√
D2. Identify common insect families through the recognition of diagnostic features.	√	√	√	√	√	√	√		√	√	√
D3. How to collect and preserve insects.	√	√	√	√		√	√	√	√	√	√

PLOS

1. Demonstrate broad depth knowledge of core concepts in plant protection.
2. Exhibit teaching competence through teaching, seminars and speaking experiences.
3. Interpret scientific literature related to Plant pathology, Entomology, or Weed science.
4. Formulate hypotheses, and develop experimental designs to test these hypotheses.
5. Establish and maintain experiments in the field of Plant Pathology, Entomology, or Weed science.



6. Perform appropriate statistical analyses for data collected in in Plant Pathology, Entomology, and Weed science.
7. Think critically, solve research problems, and draw conclusions in the field of Plant Pathology, Entomology, or Weed science
8. Interpret and present research results in both oral and written formats.
9. Publish research in the field of Plant Protection in peer-reviewed scientific journals.
10. Maintain a leadership role in Plant Protection at the national and international levels.
11. Commit to ethics and compliance responsibilities for being an agricultural engineer, especially with regard to agricultural sector, environment, and society.

21. Topic Outline and Schedule:

No. of lecture (s) /Week	Topic	Intended Learning Outcome	Learning Methods (Face to Face/Blended/ Fully Online)	Platform	Synchronous / Asynchronous Lecturing	Evaluation Methods	Sources
2 (1st wk)	Introduction to Insect Taxonomy, History of theories of systematics	A 1-2, B1- 2	Face to Face		Synchronous	Exams or quizzes	Chapter 3 in Borror and Delong's Introduction to the Study of Insects
2 (2 nd wk)	Modes of speciation, taxonomic procedures, taxonomic publications, international code of zoological nomenclature, zoogeographic regions of the world.	A 1-2, B 1-2, C1-2, D1-2	Face to Face				Chapter 3 in Borror and Delong's Introduction to the Study of Insects
2 (3 rd wk)	Classifications of the Hexapoda, insect orders characters and phylogeny	A 1-2, B 1-2, C1-2, D1-2	Face to Face		Synchronous	Exams or quizzes or Collection	Chapter 6 in Borror and Delong's Introduction to the Study of Insects
2 (4 th wk)	Entognathous Hexapods (Protura, Collembola, Diplura) and the Apterygote Insects (Microcoryphia and Thysanura)	A 1-2, B 1-2, C1-2, D1-2	Face to Face		Synchronous	Exams or quizzes	Chapters 7&8 in Borror and Delong's Introduction to the Study of Insects
2 (5 th wk)	Ephemeroptera, Odonata, Orthoptera	A 1-2, B 1-2, C1-2, D1-2	Face to Face				Chapters 9, 10 & 11 in Borror and Delong's Introduction to the Study of Insects
2 (6 th wk)	Phasmatodea, Grylloblattodea, Mantophasmatodea, Deramptera, Plecoptera	A 1-2, B 1-2, C1-2, D1-2	Face to Face		Synchronous	Exams or quizzes or Collection	Chapters 12, 13, 14, 15 & 16 in Borror and Delong's Introduction to the Study of Insects



2 (7 th wk)	Embiidina, Zoraptera, Isoptera, Mantodea, Blattodea	A 1-2, B 1-2, C1-2, D1-2	Face to Face		Synchronous	Exams or quizzes	Chapters 17,18,19, 20 & 21 in Borror and Delong's Introduction to the Study of Insects
2 (8 th wk)	Hemiptera	A 1-2, B 1-2, C1-2, D1-2	Face to Face				Chapter 22 in Borror and Delong's Introduction to the Study of Insects
2 (9 th wk)	Thysanoptera, Psocoptera, Phthiraptera	A 1-2, B 1-2, C1-2, D1-2	Face to Face		Synchronous	Exams or quizzes or Collection	Chapters 23, 24 & 25 in Borror and Delong's Introduction to the Study of Insects
2 10 th wk	Coleoptera	A 1-2, B 1-2, C1-2, D1-2	Face to Face		Synchronous	Exams or quizzes	Chapter 26 in Borror and Delong's Introduction to the Study of Insects
2 (11 th wk)	Coleoptera, Neuroptera	A 1-2, B 1-2, C1-2, D1-2	Face to Face				Chapters 26& 27 in Borror and Delong's Introduction to the Study of Insects
2 (12 th wk)	Hymenoptera	A 1-2, B1- 2	Face to Face		Synchronous	Exams or quizzes or Collection	Chapter 28 in Borror and Delong's Introduction to the Study of Insects
2 (13 wk)	Trichoptera Lepidoptera Presentations	A 1-2, B 1-2, C1-2, D1-2	Face to Face		Synchronous	Exams or quizzes	Chapters 28 & 30 in Borror and Delong's Introduction to the Study of Insects
2 (14 wk)	Siphonaptera , Mechoptera, Strepsiptera	A 1-2, B 1-2, C1-2, D1-2	Face to Face				Chapters 31, 32& 33 in Borror and Delong's Introduction to the Study of Insects
2 (15-16 wk)	Diptera	A 1-2, B 1-2, C1-2, D1-2	Face to Face		Synchronous	Exams or quizzes or Collection	Chapter 34 in Borror and Delong's Introduction to the Study of Insects



22 Evaluation Methods:

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

Evaluation Activity	Mark	Topic(s)	Period (Week)	Platform
Midterm Exam	15%	To be agreed upon	11 th week	Face to face
First Lab. Exam	10%	To be agreed upon	11 th week	Face to face
Insect Collection	15%		14 th week	Face to face
Presentation	10%	To be agreed upon	13 th week	Face to face
Term paper	10%	To be agreed upon	13 th week	
Final Lab. Exam	10%	All topics	15 th week	Face to face
Final Exam	30%	All topics	University calendar	Face to face

23 Course Requirements

Classroom, laboratory with stereomicroscopes.

24 Course Policies:

A- Attendance	To (%)	Scale	Mark	Result
0	35	0	H	Fail
40	43	0.75	D-	Fail
44	50	1	D	Accepted
51	54	1.5	D+	Accepted
55	58	1.75	C-	Good
59	65	2	C	Good
66	69	2.5	C+	Good
70	73	2.75	B-	Very Good
74	80	3	B	Very Good
81	84	3.5	B+	Very Good
85	88	3.75	A ⁻	Excellent



89	100	4	A	Excellent	A- Attendance
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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.

25 References:

<p>A- Required book(s), assigned reading and audio-visuals:</p> <p>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.</p> <p>B- Recommended books, materials, and media:</p> <p>Mayr. E. and Ashlock, P. 1991. Principles of Systematic Zoology. Second Edition. McGraw-Hill, INC USA. 475 PP.</p> <p>Ride. W. D. et al (editors). 1985. International code of Zoological Nomenclature. University of California Press. Third Edition. 338 PP. Latest edition available on the internet.</p> <p>Papers in several entomology journals.</p> <p>ELearning website of the University of Jordan.</p> <p>Tree of life web project at: http://tolweb.org/Arthropoda/</p>
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26 Additional information:

Name of Course Coordinator: Ahmad Katbeh	Signature: <i>Ahmad Katbeh</i>	Date: 26/12/2024
Head of Curriculum Committee/Department: -----	Signature: -----	
Head of Department: -----	Signature: -----	
Head of Curriculum Committee/Faculty: -----	Signature: -----	
Dean: -----	Signature: -----	