

Course Syllabus

1	Course title	Nematode Taxonomy	
2	Course number	0606961	
3	Credit hours	3	3
	Contact hours (theory, practical)	2, 3	
4	Prerequisites/corequisites	/	
5	Program title	Plant Protection	
6	Program code		
7	Awarding institution		
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	XFace to face learning <input type="checkbox"/> Blended <input type="checkbox"/> Fully online	
15	Online platforms(s)	<input type="checkbox"/> Moodle <input type="checkbox"/> Microsoft Teams <input type="checkbox"/> Skype <input type="checkbox"/> Zoom <input type="checkbox"/> Others.....	
16	Issuing/Revision Date	Feb. 27 th 2022	

17 Course Coordinator:

Name: Dr. Luma Al Banna

Contact hours: 5-7 pm Monday and Wednesday

Office number: 176

Phone number: 22530

Email: lalbanna@ju.edu.jo

18 Other instructors:

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19 Course Description:

This course includes the study of different theories and methods of nematode systematics. The practical part includes identification of nematode genera and certain species using diagnostic morphological keys. Also identification will be performed on the basis of different host range test, electrophoresis & cytogenetical methods.

20. Course aims and outcomes:

A- Aims:

- Understand Principles of systematics.

- Understand the theory & practice of nematode classification 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
SLOs of the course									
A1- Know nematodes morphology	√								
A2 - Understand terminology of Classification, description, identification, Taxonomy and systematic	√								
A3- Recognize the contribution of systematics to Biology	√								
A4- Understand the different theories of Taxonomy	√								
B1- Gain the skills of isolating and identifying nematode	√								
C1- Diagnose nematodes and distinguish them.	√					√	√		
C2- Gain an increased self-confidence in one's personal ability regarding nematode Taxonomy		√				√	√		
C3- Gain an ability to critically analyze a problem or issue from systematics perspective						√	√		√
D1 Work within a team		√					√		√
D2. Plan and manage time		√							√

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

1. Demonstrate a broad knowledge of core concepts in plant protection.
2. Demonstrate teaching competence through teaching assistance, seminars and speaking experiences.
3. Understanding, interpretation and synthesis of scientific literature pertaining to plant protection.
4. Formulate hypotheses; develop experimental designs to test these hypotheses; establish and maintain experiments.
5. Collect data in an objective way and perform appropriate statistical analyses.
6. Think critically, solve research problems, and draw conclusions in the field of specialization.
7. Interpret and present research results in oral and written formats.
8. Publish research in peer-reviewed scientific journals.
9. Maintain a leadership role in plant protection at the national and international levels.

21 Topic Outline and Schedule:

Week	Lecture	Topic	Intended Learning Outcome	Learning Methods	Platform	Synchronous / Asynchronous Lecturing	Evaluation Methods	Resources
1	1.1	I. Introduction: The science of Taxonomy *. History of Taxonomy	A1-A3, C1, C2	Face to Face		Synchronous	Mid & final	1-3
	1.2	*. Contribution of systematics to Biology	A1-A3, C1, C2	Face to Face		Synchronous	Mid & final	1-3
2	2.1	*Systematics as a science of organic diversity	A1,A2,C1, D1-D3	Face to Face		Synchronous	Mid & final	1-3
	2.2	*Systematics as a science of organic diversity	A4, C1-C2	Face to Face		Synchronous	Mid & final	
3	3.1	II. Microtaxonomy *. Species concept		Face to Face	Moodle, Microsoft teams	Asynchronous	Mid & final	
	3.2	*. Species taxon		Face to Face	Moodle, Microsoft teams	Asynchronous	Mid & final	
4	4.1	I. Macrotaxonomy * Theory and Practice of biological classification;		Face to Face		Synchronous	Mid & final	
	4.2	* Theory and Practice of biological classification;		Face to Face		Synchronous	Mid & final	
5	5.1	* Taxonomic characters (Morphological, Molecular, Ecological, and geographical characters)		Face to Face		Synchronous	Presentation	
	5.2	* Taxonomic characters (Morphological, Molecular, Ecological, and geographical characters)		Face to Face		Synchronous	Mid & final Presentation	

6	6.1	IV. Methodological issues *. Taxonomic collections and process of identification	A4, C1-C2	Face to Face		Synchronous	Mid & final	1-3
	6.2	IV. Methodological issues *. Taxonomic collections and process of identification		Face to Face		Synchronous	Mid & final	
7	7.1	IV. Methodological issues *. Taxonomic Publication *. The rules of zoological nomenclature	A4, C1-C2	Face to Face	Moodle, Microsoft teams	Asynchronous	Mid & final Mid & final, Presentation	
	7.2	IV. Methodological issues *. Taxonomic Publication *. The rules of zoological nomenclature		Face to Face	Moodle, Microsoft teams	Asynchronous		
8	8.1	V. Morphology and molecular identification of nematodes (Theory and Practical) Phylum, Class, Orders	A4, B1, C1-C3, D1-D2	Face to Face		Synchronous	Mid & final, Presentation	Diagnostic Keys and revisions
	8.2	Morphology and molecular identification of nematodes Phylum, Class, Orders		Face to Face		Synchronous		
9	9.1	Morphology and molecular identification of nematodes 1 Class Chromadorea		Face to Face	Moodle, Microsoft teams	Asynchronous	Final	

		2 Class Enoplea.						
	9.2	Morphology and molecular identification of nematodes Orders of class Chromadorea		Face to Face	Moodle, Microsoft teams	Asynchronous	Final	
10	10.1	Midterm	A4 , B1, C1-C3, D1-D2	Face to Face				
	10.2	Morphology and molecular identification of nematodes Families of orders of class Chromadorea						
11	11.1	Morphology and molecular identification of nematodes Genera of families of Chromadorea	A4 , B1, C1-C3, D1-D2	Face to Face			Final	
	11.2	Morphology and molecular identification of nematodes Genera of families of Chromadorea		Face to Face	Moodle, Microsoft teams	Asynchronous	Final	
12	12.1	Morphology and molecular identification of nematodes Genera of families of Chromadorea		Face to Face	Moodle, Microsoft teams	Asynchronous	Final	
	12.2	Morphology and molecular identification of nematodes Orders of class Enoplea		Face to Face		Synchronous	Final	
13	13.1	Morphology and molecular identification of nematodes	A4 , B1, C1-C3, D1-D2	Face to Face		Synchronous	Final	
	13.2	Morphology and molecular identification of nematodes Families of orders of class enoplea		Face to Face		Synchronous	Final	
14	14.1	Morphology and molecular identification of nematodes Families of orders of class enoplea			Moodle, Microsoft teams	Asynchronous	Final	
	14.2	Genera of families of Enoplea			Moodle, Microsoft teams	Asynchronous	Final	
15	15.1	Morphology and molecular identification of nematodes		Face to Face		Synchronous	Project , Students	



		Genera of families of Enoplea						
	15.2	Genera of families of Enoplea		Face to Face		Synchronous	Project students	

22 Evaluation Methods:

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

Evaluation Activity	Mark	Topic(s)	SLOs	Period (Week)	Platform
First Mid-Term Exam (Theory and practical)	30	W1-w8	A1-C1	10 th week	
Presentation,	5	W3-W14	D1-D3	At the end of each topic	Moodle, Microsoft teams
Assignments	5				
Lab work	10				
Final project	10				
Final Exam (theory and practical)	40%	W1-W15all topics	A1-C1	Will be announced from registrar	

23 Course Requirements

(e.g: students should have a computer, internet connection, webcam,

24 Course Policies:

- A- Attendance policies:
<15% , <20% with a permission ; medical report
- B- Absences from exams and submitting assignments on time:
 - **Assignments will not be accepted after deadline**
 - **Absence of exams with a medical report must be submitted following regulations and a makeup exam will be scheduled within one week**
- C- Health and safety procedures:
 - **Mask must be worn all the time in class and lab**
 - **Social distancing**
- D- Honesty policy regarding cheating, plagiarism, misbehavior:
- E- Grading policy:



From (%)	To (%)	Scale	Mark	Result
0	54	0	C	Acceptable
55	59	2.5	C+	Good
60	64	2.75	B-	Good
65	74	3	B	Very Good
75	79	3.5	B+	Very Good
80	84	3.75	A ⁻	Excellent
85	100	4	A	Excellent

F- Available university services that support achievement in the course:

25 References:

A- Required book(s), assigned reading and audio-visuals:

Text Book :

Text Book :

1. Fournier, R., Geraert, E., Luc, M., Maggenti, A. R. Raski, D.J. 1988. A reappraisal of Tylenchina (Nemata). Reue de Nematologie, 10: 127-232, 409-444, 11: 159-188.
2. Mayr, E. & Ashlock, P. D. 1991. Principles of Systematic Zoology. McGraw-Hill, Inc. New York.
3. Nickle, W.R. 1991. Manual of Agricultural Nematology. Marcel Deckkee, Inc., NY

References

Appropriate Scientific papers, modified regularly

Reference updated each semester

Videos In class and will be deposited on elearning

Highlighted papers are Students presentations

Students Projects* : modified regularly

26 Additional information:

Name of Course Coordinator: -----Signature: ----- Date: -----
Head of Curriculum Committee/Department: ----- Signature: -----
Head of Department: ----- Signature: -----
Head of Curriculum Committee/Faculty: ----- Signature: -----
Dean: ----- Signature: -----