Course Description Form Plant Virology

1. Course Name:
Plant Virology
2. CourseCode:
PVIR423
3. Semester /Year:
Second semester/Fourth stage, plant protection/2023-2024
4. DescriptionPreparation Date:
1/2/2024
5. Available Attendance Forms:
Attendance
6. Number of Credit Hours (Total) / Number of Units (Total)
75 hour/ 3.5 units
7. Course administrator's name(mention all,if more than one name)
Name: Hameed Hamoud Ali Nour Salah Ahmed
8. Course Objectives
• The learner should be able to identify and understand what is related to plant viruses and their relationship to plants and the extent of the damage resulting from them. • Identify the most important methods of diagnosis and detection of these causes • Distinguish between signs and symptoms of viral diseases in the field from symptoms resulting from other pathogens • Identify and know the most important methods of diagnosis and detection of viral causes • Familiarity with the most important sources of plant viruses in nature • Understand what is related to plant viruses, their relationship with plants, and the extent of the damage resulting from them • A comprehensive study of the most important mechanisms for controlling diseases resulting from viral causes
9. Teaching and learning strategies
- Interactive lecture - Brainstorming

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قسم وقاية النبات

- Dialogue and discussion
- Field Training
- Practical exercises
- Field project
- Self-education

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2 theoretical	**a2:**The student is introduced to the concept of the history of plant virology	History of plant Virology	Auditory methods. Method of writing on the blackboard	Short testQuiz
	3 practical	**a2:**The student learns about the laboratory, equipment, tools, conditions that must be observed, and laboratory safety in the plant pathology laboratory	Practical concepts for sterilization and avoiding viral contamination in the laboratory and greenhouses	Assigning tasks and reporting	Short testQuiz
2	2 theoretical	a2 : Determines the origin of viruses, their ancestors, and the most important evolutionary hypotheses b1: He possesses practical and intellectual knowledge and concepts that help him understand the hypotheses of evolution	Hypotheses on the origin and development of plant viruses	Auditory methods. Method of writing on the blackboard	Short testQuiz
	3 practical	**b3:**The student applies the sterilization process in the laboratory	Sterilization	Assigning tasks and reporting	Short testQuiz
3	2 theoretical	-a3 : Determines the chemistry of the virus in terms of structure and function	Chemical structure of the viral particle	Auditory methods. Method of writing on the blackboard	Short testQuiz

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قسم وقاية النبات

	3 practical	**b4:**The student experiences the nutritional environment that is most important for the development of pathogens	Preparing buffer solutions, auxiliary materials and tools for the mechanical inoculation	Assigning tasks and reporting	Short testQuiz
4	2 theoretical	**b3:**The student explains the concept of disease in plants	The concept of disease in plants	Auditory methods. Method of writing on the blackboard	Short testQuiz
	3 practical	**a2:** He uses what he needs to prepare buffer solutions and their main components	DiagnosisDiseases Vegetarianism	Assigning tasks and reporting	Short testQuiz
5	2 theoretical	**a4:**The student leads discussion panels on the development of plant disease and the relationship of the virus to the host	The development of plant disease and the relationship of the virus to the host	Auditory methods. Method of writing on the blackboard	Report and discuss
	3 practical	**b4:**The student examines pathogens by isolating them from plant parts	Isolation of virus pathogens from plant parts	Assigning tasks and reporting	writing a report
6	2 theoretical	**a4:**The student discusses the stages of viral disease development	Stages of viral disease development	For audio methods. Writing style on	Semester test 1
	3 practical	**b4:**The student examines to transmit viruses by vegetative methods	How to transmit viruses by vegetative methods	Assigning tasks and reporting	Semester test 1
7	2 theoretical	**b4:** Proficient in methods of spreading viral infections in the field	Methods of transmission and spread of plant viruses	Auditory methods. Method of writing on the blackboard	Short testQuiz
	3 practical	**b4:**The student examines pathogens	Isolation of pathogens from soil	Assigning tasks and reporting	

		by isolating them from soil			Short testQuiz
8	2 theoretical	a4 : The student discusses the relationships between plant viruses and their vectors	Biological relationships between plant viruses and their vectors	Auditory methods. Method of writing on the blackboard	Short testQuiz
	3 practical	**b3:**The student applies the process of how to purify virus from plants	Purification of viruses from plants,	Assigning tasks and reporting	Short testQuiz+ Homework
9	2 theoretical	**a2:**The student learns about plant defenses against pathogen attacks	How plants defend themselves against pathogen virus attacks	aFor audio methods, writing style on the blackboard	Short testQuiz+ Homework
	3 practical	**a4:**The student differentiates between symptoms and signs of illness	Disease symptoms and signs+Scientific visit	Assigning tasks and reporting	Short testQuiz+ Homework
10	2 theoretical	a2 : It identifies the most important causes of mutations and the emergence of new viral strains	Heterogeneity of plant viruses	Auditory methods. Method of writing on the blackboard	Short testQuiz
	3 practical	**b3:**The student applies pathogenicity measurement	Measuring pathogenicity	Assigning tasks and reporting	
11	2 theoretical	a2 : It identifies the classical methods used in diagnosing plant viruses, as well as modern methods that rely on the viral gene	Diagnosis of plant viruses	Methods Audio. Style of writing on the blackboard	Semester test2
	3 practical	a2 : It uses what it needs to get the antibodies	Practical steps for making antisera from rabbits and mice	Assigning tasks and reporting	Semester test2
12	2 theoretical	**b3:**The student writes a report on the epidemiology of plant	Epidemiology of plant viral disease	Auditory methods. Method of writing on the blackboard	Short testQuiz

		viral disease			
	3 practical	a2: He uses what he needs to perform serological tests, such as the ELISA test and double diffusion in agar	Serological tests to detect plant viruses	Assigning tasks and reporting	Short testQuiz+ Homework
13	2 theoretical	a4:The student discusses MethodsControl of plant diseases	Control of plant viral diseases	Auditory methods. Method of writing on the blackboard	Short testQuiz
	3 practical	b4:The student experiments the molecular diagnosis of plant viruses	Molecular diagnosis of plant viruses	Assigning tasks and reporting	Short testQuiz+ Homework
14	2 theoretical	a4:The student discusses Methods Control of viral plant diseases	Control of viral diseases	Auditory methods. Method of writing on the blackboard	Semester test2
	3 practical	b3:application Laboratory evaluation of Biological methods to control viral vectors	Biological methods to control viral vectors	Assigning tasks and reporting	Semester test2
15	2 theoretical	a4:The student discusses Methods Control of viral plant diseases	Control of plant viral diseases	Auditory methods. Method of writing on the blackboard	Report and discuss
	3 practical	b3:application the computer to learn the viral genomic structure	Using the computer to learn the viral genomic structure	Assigning tasks and reporting	Report and discuss

11. Course Evaluation

Relative weight %	Class	Calendar date (week)	Calendar methods	T
2	2	the sixth week	Short test(1)Quiz	1
2	2	The fourteenth week	Short test(2)Quiz	2
10	10	The seventh week	Semester test (1)	3
10	10	The eleventh week	Semester test (1)	4
40	40	Final semester exams	Final theoretical test	5
5	5	The fifteenth week	Report and discuss	6
5	5	The third and fifth week	Report and discuss	7
2	2	The first week	Short practical test (1)Quiz	8
2	2	fourth week	Short practical test (2)Quiz	9
2	2	The fourteenth week	Short practical test (3)Quiz	10
20	20	Final semester exams		11
100%	100%	100	the total	

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Book (Plant Virology- Nabil A. Qasim)
Main references (sources)	actical of plant viruses , Nabil A.Qasim and Hameed H. Ali) Book (Plant Virology- Nabil A. Qasim)
Recommended books and references (scientific journals, reports...)	Plant virology (Mathews, 1990)
Electronic References, Websites	Home Feed | ResearchGate

Theoretical teacher. Dr. Hameed Hamoud Ali

Practical teacher: Nour Salah Ahmed

Chairman Scientific Committee: Prof.Dr. Juhayna Idris Muhammad

Head of the Department: Dr. Firas Kadhim Al-Jubouri

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