



No. _____ of _____

USAMV form 0101020101 (discipline code)

SUBJECT OUTLINE

1. Information on the programme

1.1. Higher education institution	University of Agricultural Sciences and Veterinary Medicine of Cluj-Napoca
1.2. Faculty	Agriculture
1.3. Department	Environmental and plant protection
1.4. Field of study	Agronomy
1.5. Cycle of study ¹	Bachelor
1.6. Specialization/ Study programme	Agriculture
1.7. Form of education	Full time

2. Information on the discipline

2.1. Discipline name	Phytopathology 2							
2.2. Course coordinator	Assoc. prof. Vasile Florian							
2.3. Seminar/ laboratory/ project coordinator	Lecturer dr. Loredana Suci							
2.4. Year of study	III	2.5. Semester	I	2.6. Evaluation type	summative	2.7. Discipline status	Content ²	DD
							Compulsoriness ³	DI

3. Total estimated time (teaching hours per semester)

3.1. Hours per week – full time programme	4	out of which: 3.2. lecture	2	3.3. seminar/ laboratory/ project	2
3.4. Total number of hours in the curriculum	56	out of which: 3.5. lecture	28	3.6. seminar/ laboratory	28
Distribution of the time allotted					hours
3.4.1. Study based on books, textbooks, bibliography and notes					32
3.4.2. Additional documentation in the library, electronic platforms and field experiences					15
3.4.3. Preparing seminars/ laboratories/ projects, subjects, reports, portfolios and essays					18
3.4.4. Tutorials					4
3.4.5. Examinations					15
3.4.6. Other activities					
3.7. Total hours of individual study	84				
3.8. Total hours per semester	140				
3.9. Number of credits ⁴	5				

4. Prerequisites (if applicable)

4.1. curriculum-related	Botany, Physiology, Agrochemistry, Agro-technical, Genetics, Agricultural machines, Phytopathology 1
4.2. skills-related	The student must have knowledge of the main types of diseases, the general and specific characteristics of the plant pathogens

5. Conditions (if applicable)

5.1. for the course	The course is interactive, students can ask questions regarding the content of the presentation
5.2. for the seminar/ laboratory/ project	In practical works it is compulsory to consult the practical works guide, each student will carry out an individual activity with the laboratory materials provided and described in the practical works guide.

6. Cumulated specific competences

Professional competences	<p>To know the specific agronomic language for the discipline of Phytopathology</p> <p>To acquire the main diseases that affect the main agricultural crops</p> <p>To recognize the main types of diseases of crop plants</p> <p>To know the system for evaluating the attack of plant pathogens</p> <p>To know the methods of prophylaxis and therapy of the studied pathogens</p> <p>To know how the attack of pathogens evolves based on their knowledge of the biology and technology applied to the attacked crops</p>
Transversal competences	<p>To demonstrate the ability to create a system to control plant diseases identified on a farm</p> <p>Be able to develop projects for forecasting and warning of the occurrence of pathogens, for farms in different climatic conditions</p> <p>To be able to elaborate scientific activities related to plant diseases, including setting up experiments in experimental field</p> <p>Demonstrate concern about professional development by conducting investigations on the economic impact of plant pathogens</p> <p>To participate in research activities of the discipline</p>

7. Discipline objectives (based on the cumulated specific competences)

7.1. General objective	To acquire the knowledge regarding the main pathogens and diseases that they produce in agricultural crops
7.2. Specific objectives	<p>Understand the life cycle of plant pathogens</p> <p>Be able to evaluate the degree of attack of pathogens on a farm</p> <p>To know the factors that influence the way of infection of pathogens</p> <p>To formulate an integrated disease control system on a farm</p>

8. Content

8.1. COURSE Number of hours - 28	Teaching methods	Observation
I. Diseases and their control technology of field plants	Lecture	6 lecture
1.1. Diseases and their control technology of cereals		
1.2. Diseases and their control technology of potato and sugar beet		
1.3. Diseases and their control technology of leguminous plants		
1.4. Diseases and their control technology of textile and industrial plants		
II. Diseases and their control technology of vegetables	Lecture	4 lectures
2.1. Diseases and their control technology of solano-fruit plants		
2.2. Diseases and their control technology of cucurbit diseases		
2.3. Diseases and their control technology of vegetables		
2.4. Diseases and their control technology of bulbous and root vegetables		
III. Diseases and their control technology of fruit trees	Lecture	3 lectures
IV. Diseases and their control technology of of vines	Lecture	1 lectures

8.2. PRACTICAL WORKS Number of hours - 28	Teaching methods	Observation
Assessment of the phytosanitary state of the crops and the collection of biological material for herbs	-Herbarium study	1 lab work
Diseases of grain cereals and maize	- Study of drawings staff	3 lab works
Potato and sugar beet diseases	- Realization of microscopic preparations	1 lab work
leguminous plants diseases		1 lab work
Diseases of oily plants		1 lab work
Diseases of textile and industrial plants		1 lab work
Diseases of vegetables		2 lab works
Diseases of fruit trees		2 lab works
The diseases of vines		1 lab work
Knowledge verification		1 lab work
<i>Compulsory bibliography:</i>		
1. Florian V. - 2001, Fitopatologie generală, Ed. Poliim, Cluj-Napoca.		
2. Florian V., Oroian I. -2002, Diagnoza bolilor infecțioase la plantele de cultură, Ed. Poliim Cluj-Napoca		
3. Oroian I., Puia Carmen, Șerba I.- 2002, Practicum de Fitopatologie, Ed. Poliim Cluj-Napoca		
4. Oroian I. V. Florian, L. Holonec, - 2006, Atlas de Fitopatologie, Ed. Academiei Române, București		

Optional bibliography:

1. Baicu T., Săvescu A. - 1986, Sisteme de combatere integrată a bolilor și dăunătorilor pe culturi, Ed. Ceres, București.
 2. Bobeș I. - 1983, Atlas de Fitopatologie și protecția agroecosistemelor, Ed. Ceres, București.
 3. Hatman M. și col. - 1989, Fitopatologie, E.D.P., București.
 4. Pop I.V. - 1987, Virusurile și virozele plantelor, Ed. Ceres, București.
 5. Popescu Gh. - 1993, Fitopatologie, Ed. Tehnică, București.
 6. Popescu Gh. - Tratat de Patologia Plantelor, Vol I-III, ed. Eurobit, Timișoara
 7. Puia Carmen - 2003, Patologie vegetală, Ed. Digital Data, Cluj-Napoca;
 8. Severin V. și col. - 1985, Bacteriozele plantelor cultivate, Ed. Ceres, București.
- * * * Revista "Protecția plantelor", Ed. Polirom, Cluj - Napoca.

9. Corroborating the discipline content with the expectations of the epistemic community representatives, of the professional associations and of the relevant employers in the corresponding field

In order to identify ways of modernizing and continuously improving the teaching and the content of the courses, with the most current topics and practical problems, the teachers participate in the annual meeting of the Transylvanian Plant Protection Society, where they meet with officials and engineers in the field but also with farmers, being debated current issues and perspectives in the field of integrated control of plant diseases

10. Evaluation

Type of activity	10.1. Evaluation criteria	10.2. Evaluation type	10.3. Percentage of the final grade
10.4. Course	Knowledge of the pathology of the main diseases and of the pathogenesis process of plant pathogens in the main agricultural plants Knowledge of disease prevention and control measures, within the integrated concept, at each agricultural crop	summative (E)	80%
10.5. Seminar/Laboratory	Diagnosis of plant diseases Knowledge of the specific characteristics of the main pathogens and their systematic classification Knowledge and determination of the plant health status of a crop	summative (E)	20%
10.6. Minimum performance standards			
Knowledge of scientific information transmitted through lectures and practical papers at an acceptable level. Obtaining the passing grade for all the tests is a condition of pass			

¹ Cycle of studies - choose one of the three options: Bachelor/Master/Ph.D.

² according to the educational plan

³ Discipline status (compulsoriness) - choose one of the options - DI (compulsory discipline) DO (optional discipline) DFac (facultative discipline).

⁴ One credit is equivalent to 25-30 hours of study (teaching activities and individual study).

Filled in on
04.09.2019

Course coordinator
Assoc. prof. dr. Vasile Florian

Laboratory work/seminar coordinator
Lecturer dr. Lucretiana Suci

Approved by the
department on
05.09.2019

Head of the Department
Prof. dr. Ioan Oroian