



No. \_\_\_\_\_ of \_\_\_\_\_

USAMV form 0108010106 (discipline code)

**SUBJECT OUTLINE****1. Information on the programme**

<b>1.1. Higher education institution</b>	<b>University of Agricultural Sciences and Veterinary Medicine of Cluj-Napoca</b>
<b>1.2. Faculty</b>	<b>Agriculture</b>
<b>1.3. Department</b>	<b>III Environment and Plant Protection</b>
<b>1.4. Field of study</b>	<b>Agronomy</b>
<b>1.5. Cycle of study<sup>1</sup></b>	<b>Master</b>
<b>1.6. Specialization/ Study programme</b>	<b>Organic Agriculture</b>
<b>1.7. Form of education</b>	<b>Full time</b>

**2. Information on the discipline**

2.1. Discipline name		Pest control in organic agriculture						
2.2. Course coordinator		prof. dr. Ion OLTEAN						
2.3. Seminar/ laboratory/ project coordinator		prof. dr. Ion OLTEAN						
2.4. Year of study	I	2.5. Semester	II	2.6. Evaluation type	Summative	2.7. Discipline status	Content <sup>2</sup>	DS
							Compulsoriness <sup>3</sup>	DO

**3. Total estimated time (teaching hours per semester)**

3.1. Hours per week - full time programme	3	out of which: 3.2. lecture	1	3.3. seminar/ laboratory/ project	2
3.4. Total number of hours in the curriculum	42	out of which: 3.5. lecture	14	3.6. seminar/laboratory	28
Distribution of the time allotted					<b>hours</b>
3.4.1. Study based on books, textbooks, bibliography and notes					40
3.4.2. Additional documentation in the library, electronic platforms and field experiences					25
3.4.3. Preparing seminars/ laboratories/ projects, subjects, reports, portfolios and essays					25
3.4.4. Tutorials					8
3.4.5. Examinations					10
3.4.6. Other activities					
3.7. Total hours of individual study	<b>108</b>				
3.8. Total hours per semester	<b>160</b>				
3.9. Number of credits <sup>4</sup>	<b>6</b>				

**4. Prerequisites (if applicable)**

4.1. curriculum-related	Not applicable
4.2. skills-related	Not applicable

**5. Conditions (if applicable)**

5.1. for the course	Multimedia presentation with appropriate logistical support (video projector) of the main groups of pests, in terms of systematics. The focus is particularly on those groups with high importance in terms of systematic, phylogenetic, environmentally and economically point of view. Species for each group are exemplified with external morphology and anatomical description. The illustration is made with Romanian fauna species present in different ecosystems or exotic species. Finally, students must be able to identify the main animal groups in human habitats (mites,
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	<p>insects, rodents) and vectors of disease pathogens dangerous to humans and warm-blooded animals in human habitats.</p> <p>Also, they must recognize the main pests that cause damage to agro-horticultural products after harvest and storage (nematodes, snails, mites, insects, rodents).</p> <p>The course is interactive, students can ask questions regarding the content of the exposure.</p>
5.2. for the seminar/ laboratory/ project	<p>Practical work is required to study the collection of biological material teaching the discipline, which includes material preserved / prepared by representatives of animal groups presented with laboratory tools, optical equipment, logistical support for multimedia presentation.</p> <p>Each student will develop an individual activity with laboratory materials made available and presented properly, with logistical video support.</p> <p>Academic discipline is imposed for all the period of works.</p>

## 6. Cumulated specific competences

Professional competences	<p>To know the specific scientific terminology for Plant Protection</p> <p>To know the classification of living organisms</p> <p>To acquire thoroughly aspects concerning characteristics of some pathogens of diseases dangerous to humans and warm-blooded animals in human habitats</p> <p>To recognize the main categories of animal pests in human habitats (insects, mites, rodents)</p> <p>To know the main pathogenic microorganisms (bacteria and fungi) and the main animal pests that cause damage to agro-horticultural products after harvest and storage (nematodes, slugs, mites, insects, rodents)</p> <p>To know the issues related to infectious disease vectors</p> <p>To know the specific methods of disinfection, dissection and deratization</p>
Transversal competences	<p>To have the ability to use information sources and specific concepts learned in new contexts</p> <p>To use theoretical concepts in solving practical issues</p> <p>To demonstrate the ability to analyze and synthesize information and draw conclusions.</p>

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

7.1. General objective	To acquire the knowledge to monitor the pest complex when an agricultural culture
7.2. Specific objectives	Understand the importance of alternative pest control methods in the organic farming system

## 8. Content

8.1. COURSE Number of hours - 14	Teaching methods	Observation
Damage assessment Frequency of attack (F%) Attack intensity (I%) Degree of attack (G.a.%)	Lecture	1 lecture
Pest monitoring in a culture Conducting surveys Economic damage threshold (PED)		1 lecture 2 lecture
The economic importance of pests primary or major pests secondary pests vector pests		2 lecture
Methods to prevent the mass occurrence of pests: The role of phytosanitary quarantine in preventing the occurrence and spread of pests The importance of technological links in limiting pest populations		1 lecture
Methods to combat animal pests: Mechanical combat, Physical combat		2 lecture

Methods to combat animal pests: use of virotic, bacterial and fungal biopreparations launch of predators and natural parasites. hurt economic: classification, the use of ecomes in agroecosystems. pheromones: classification, their use in agroecosystems.		2 lecture
		2 lecture
Integrated crop protection: principles, methods of application.		1 lecture

<b>8.2. PRACTICAL WORKS</b> <b>Number of hours – 28</b>	Teaching methods	Observation
<b>Types of damage</b>	Theoretical presentation of practical works	2 lab works
<b>Use of determinants for species identification</b>		2 lab works
<b>Damage records</b>		2 lab works
<b>Use of pheromone traps</b>		2 lab works
<b>Use of light traps</b>		2 lab works
<b>Use of food baits</b>		2 lab works
<b>Development of pest control strategies in the organic farming system</b>		2 lab works
<i>Compulsory bibliography:</i>		
1. OLTEAN I., MONICA PORCA, GHIZDAVU I., 2004, "Entomologie generală", Editura Digital Data.		
2. PERJU T., I. OLTEAN, ASEA TIMUȘ, 2001, "Acarieni și nematozi dăunători ai plantelor cultivate", Editura Poliam.		
3. PETANEC D., LAVINIA MICU, I. OLTEAN, T. PERJU, 2009, "Acarieni și nematozi, dăunători ai agroecosistemelor", Editura MIRTON, Timișoara.		
4. ROȘCA I., I. OLTEAN, I. MITREA, M. TĂLMACIU, D.I. PETANEC, H.Ș. BUNESCU, ISTRATE RADA, TĂLMACIU NELA, C. STAN, MICU LAVINIA MĂDĂLINA, 2011, "Tratat de Entomologie, generală și specială", Editura "Alpha MDN",		
5. FLORIAN TEODORA, I. OLTEAN, 2018, "Entomologie specială", Editura Bioflux		
<i>Optional bibliography:</i>		
1. Revista Protecția Plantelor a SNPP Transilvania, 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

The course informations are updated, the update being periodically and a similar content of courses in this field, from other universities in the country or abroad;  
Course and practical works aim the developing ability to understand the issues related to major animal pest species, affecting the agro-horticultural products after harvest and storage, causing diseases and creates discomfort in human habitats, and to use the information in other fields of social economic and cultural scientific life.

## 10. Evaluation

Type of activity	10.1. Evaluation criteria	10.2. Evaluation type	10.3. Percentage of the final grade
<b>10.4. Course</b>	Scientific knowledge, the ability to use and interpretation of the knowledges Knowing and understanding the informational content The capacity for analysis and synthesis of information to make conclusions and to use the information in a new context	continuous(VP)	70%
<b>10.5. Seminar/Laboratory</b>	Knowledge of laboratory methods, of insects, their classification and mode of life Practicing the use of sources of information Recognition of some insect groups and species	periodic evaluation	30%
<b>10.6. Minimum performance standards</b>			
- Knowledge of the 50% of the information contained in the course			

- Knowledge of 50% of the information from the laboratory  
Mastering scientific information transmitted through lectures and practical work at acceptable level. Getting the minimal note at periodic evaluation is a passing condition..

- 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  
Prof. dr. ION OLTEAN

Laboratory work/seminar coordinator  
Prof. dr. ION OLTEAN

Approved by the  
department on  
05.09.2019



Head of the Department  
Prof. dr. Duda Marcel

