



**SUBJECT OUTLINE**

**1. Information on the programme**

1.1. Higher education institution	University of Life Sciences Iași
1.2. Faculty	Veterinary Medicine
1.3. Department	XI – Public Health
1.4. Field of study	Veterinary Medicine
1.5. Cycle of study <sup>1</sup>	Bachelor and Master (unitary study programme)
1.6. Specialization/ Study programme	Veterinary Medicine
1.7. Form of education	Full time

**2. Information on the discipline**

2.1. Name of the discipline	Special Virology							
2.2. Course coordinator	Assoc. Prof. DMV PhD Adriana ANIȚĂ							
2.3. Seminar/ laboratory/ project coordinator	Assoc. Prof. DMV PhD Adriana ANIȚĂ							
2.4. Year of study	II	2.5. Semester	4	2.6. Type of evaluation	Exam	2.7. Discipline status	Content <sup>2</sup>	FD
							Compulsoriness <sup>3</sup>	CD

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

3.1. Hours per week – full time programme	3	out of which: 3.2. lecture	2	3.3. seminar/ laboratory/ project	1
3.4. Total number of hours in the curriculum	42	Out of which: 3.5. lecture	28	3.6. seminar/laboratory	14
Distribution of the time allotted					hours
3.4.1. Study based on book, textbook, bibliography and notes					30
3.4.2. Additional documentation in the library, specialized electronic platforms and field					16
3.4.3. Preparing seminars/ laboratories/ projects, subjects, reports, portfolios and essays					14
3.4.4. Tutorials					2
3.4.5. Examinations					2
3.4.6. Other activities					
3.7. Total hours of individual study	64				
3.8. Total hours per semester	120				
3.9. Number of credits <sup>4</sup>	2				

**4. Prerequisites (is applicable)**

4.1. curriculum-related	Cell biology, Microbiology, Genetics, Molecular Biology
4.2. skills-related	The student must have knowledge regarding the basic concepts of cell biology, microbiology, genetics, molecular biology.

**5. Conditions (if applicable)**

5.1. for the lecture	The course is interactive; students can ask questions regarding the content of the presentation.
5.2. for the seminar/ laboratory/ project	At practical work is required to study the materials presented in the lectures; each student will conduct an individual activity using the laboratory materials provided. Laboratory meeting begins with a seminar having as topics the material taught in the previous courses and laboratories.

## 6. Specific competences acquired

Professional competences	For the students, this course will provide an introduction to animal host virus interactions and pathogenesis of viruses implicated in animal disease. Emphasis on diagnostic tools used in the laboratory to isolate and identify these organisms including molecular diagnostic techniques.
Transversal competences	Development of medical thinking and analysis: analytical, critical, reflective and creative thinking.

## 7. Course objectives (based on the list of competences acquired)

7.1. Overall course objective	The objective of this course is to: study viruses as individual biological entities; know the specific aspects of the pathogenesis of viral infections; know the different viral families of the viruses that cause animal infection; study the virus host interactions, laboratory diagnosis and prevention measures.
7.2. Specific objectives	After completing this course, students should be able to: <ul style="list-style-type: none"> <li>• account for taxonomic subdivision of viruses and for the most important animal and zoonotic pathogenetic viruses;</li> <li>• account for the infection process on organism level for a number of medically important viruses;</li> <li>• account for pathogenesis in relation to viral properties and the function of the immune system;</li> <li>• able to plan experiments that show how viruses interact with the host cell and also practical laboratory experience in the field of molecular virology diagnosis.</li> </ul>

## 8. Content semester I

8.1. LECTURE Number of hours – 28 Virus taxonomy and nomenclature.	Teaching methods	Notes
<b>DNA viruses.</b> Fam. Poxviridae, Fam. Asfarviridae, Fam. Iridoviridae . Order Herpesvirales, Fam. Adenoviridae, Fam. Papillomaviridae, Fam. Polyomaviridae Fam. Hepadnaviridae, Fam. Parvoviridae, Fam. Circoviridae, Fam. Anelloviridae. <b>RNA viruses.</b> Fam. Retroviridae, Fam. Reoviridae, Fam. Birnaviridae, fam. Picobirnaviridae, Order Mononegavirales, Fam. Paramyxoviridae, Fam. Pneumoviridae, Fam. Rhabdoviridae, Fam. Filoviridae, Fam. Bornaviridae, Fam. Orthomyxoviridae, Order Bunyavirales, Fam. Coronaviridae, Fam. Arteriviridae, Fam. Roniviridae, Fam. Picornaviridae, Fam. Caliciviridae, Fam. Togaviridae, Fam. Flaviviridae, Fam. Hepeviridae.	Lecture	A two-hour lecture weekly

<b>8.2. PRACTICAL WORK</b> <b>Number of hours – 14</b> 1. Isolation of Viruses: preparation of inoculum. 2. Virus isolation on embryonated eggs. <i>In vivo</i> model systems for virus culture; practical aspects of poxvirus replication 3. Opening inoculated embryonated eggs and specimen harvest 4. <i>In vitro</i> model systems for virus culture. Practical aspects of paramyxovirus replication. 5. <i>In vitro</i> model systems for virus culture. Practical aspects of adenovirus replication. 6. Molecular methods used in viral diagnosis 7. Basic principles of viral vaccines	Theoretical presentation of the practical work, followed by interactive discussions based on the approached theme and execution of the work	A 2-hour session
<i>Compulsory bibliography:</i> 1. Electronic course and practical work support – PPT presentation		
<i>Optional bibliography:</i> 1. Maclachlan N.J., Dubovi E.J. Fenner's Veterinary Virology, Fifth Edition, 2010, Elsevier, ISBN 978-01-280-0946-8 2. Rossi R. Animal Virology. 2012, White Word Publications, ISBN 978-81-323-4080-5 3. International Committee on Taxonomy of Viruses <a href="http://ictvonline.org">ICTV (ictvonline.org)</a> 4. Manual of Diagnostic Tests and Vaccines for Terrestrial Animals, World Organisation for Animal Health available at <a href="http://www.oie.int/international-standard-setting/terrestrial-manual/access-online/">http://www.oie.int/international-standard-setting/terrestrial-manual/access-online/</a>		

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

The course structure is related to the educational program of the public health disciplines department, constituting a link between preclinical and clinical learning. The discipline content is developed in correlation with necessary requirements for "day one skills". Collect, preserve and transport samples, select appropriate diagnostic tests, interpret and understand the limitations of the test results. Apply principles of bio-security correctly.

**10. Assessment**

Type of activity	10.1. Assessment criteria	10.2. Assessment methods	10.3. Percentage of the final grade
<b>10.4. Lecture</b>	The notions assimilated during the lectures will be evaluated in the exam session.	MCQ exam	80 %
<b>10.5. Seminar/Laboratory</b>	Laboratory work assessment must highlight the assimilation degree (theoretical and practical) obtained by the student.	The laboratory assessment is organized in two practical examinations. The final grade for the practical work is their average.	20 %
<b>10.6. Minimum performance standards</b>			
Knowing the complexity and diversity of viral virulence, specifically understanding different strategies pathogens employ for host manifestation of disease. Have a general understanding of the host response to viral infection and different ways viruses evade the immune response.			


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


<sup>2</sup> Discipline status (content)- for the undergraduate level, choose one of the options:- **FD** (fundamental discipline), **BD** (basic discipline), **CS** (specific disciplines-clinical sciences), **AP** (specific disciplines-animal production), **FH** (specific disciplines-food hygiene), **UO** (disciplines based on the university's options).

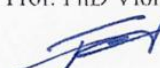
<sup>3</sup> Discipline status (compulsoriness)- choose one of the options – **CD** (compulsory discipline) **OD** (optional discipline) **ED** (elective discipline).

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

Date  
14.09. 2021

Course coordinator  
Assoc. Prof. PhD Adriana ANIȚĂ  


Laboratory work coordinator  
Assoc. Prof. PhD Adriana ANIȚĂ  


Head of the Department  
Assoc. Prof. PhD Viorel FLORISTEAN  


Approved by Faculty Council on 17.09.2021