



## **Course specification (Virology 2018-2019)**

<b>1-Basic information</b>	
<b>Course Code:</b>	<b>VIR:3139</b>
<b>Course title :</b>	<b>Virology (special)</b>
<b>Academic year:</b>	Third year
<b>Program title:</b>	B. Sc. Veterinary Medical sciences
<b>Contact hours/ week</b>	Lecture: 1hrs/week      Practical: 2hrs/week
<b>Approval Date</b>	2018-2019

### **2-Professional information**

#### **Overall aims of course:**

**The main purpose of this course is introducing the academic background and practical experience about virology science including viral diseases that affect different animals, poultry and fish and understanding the basis for differential laboratory diagnosis of viral diseases.**

### **3- Intended learning outcomes of course (ILOs)**

#### **a- Knowledge and understanding:**

**By successful completion of the course, the student should be able to:**

- a1) Describe the morphology, physiology and genetics of different veterinary viruses.
- a2) Explain the viral pathogenesis and method of disease induction
- a3) Mention the types of different veterinary vaccines.
- a4) List different methods of viral diagnosis.
- a5) Enumerate the used methods of virus control and prevention.

#### **b-Intellectual skills**

**By successful completion of the course, the student should be able to:**

- b1. Arrange viruses according to standard taxonomy.
- b2. Differentiate between different viral diseases.
- b3. Plan the control measures that used against animal diseases.
- b4. Interpret different laboratory diagnostic techniques for each virus.

#### **C- Professional and practical skills**

**By successful completion of the course, the student should be able to:**

- c1) Apply different laboratory diagnostic techniques .
- c2) Design diagnostic report.
- c3) Perform serological tests for virus identification.
- c4) Use molecular biology techniques for virus diagnosis and vaccine preparation .

#### **d- General and transferable skills**

**By successful completion of the course, the student should be able to:**

- d1. Demonstrate problem solving
- d2. Utilize group working .
- d3. Manage time and apply self learning



#### 4-Topics and contents

Course	Topic	week	No. of hours	Lectures	Practical
<b>Third year-Virology</b> (Lec. 1 h./week, Pract.2 h./week)	<b>1- Basis for Virus Taxonomy</b>	1	1	1	-
	<b>2- Egg inoculation (introduction-Principal)</b>	1	2	-	2
	<b>3- Picornaviruses</b>	2	1	1	-
	<b>4- Egg inoculation (Types -procedures)</b>	2	2	-	2
	<b>5- Orthomyxoviruses.</b>	3	1	1	-
	<b>6- Tissue culture (introduction-Principal)</b>	3	2	-	2
	<b>7- Paramyxoviruses</b>	4	1	1	-
	<b>8- Tissue culture (Types -procedures)</b>	4	2	-	2
	<b>9- Corona viruses.</b>	5	1	1	-
	<b>10-Virus titration (introduction-Principal)</b>	5	2	-	2
	<b>11- Birna viruses</b>	6	1	1	-
	<b>12-Virus titration (Types -procedures)</b>	6	2	-	2
	<b>13- Rhabdoviruses</b>	7	1	1	-
	<b>14-Virus neutralization</b>	7	2	-	2
	<b>15-Arboviruses (Togaviruses &amp; Flaviviruses)</b>	8	1	1	-
	<b>16-Virus purification (physical methods)</b>	8	2	-	2
	<b>17-Arboviruses (Bunyaviruses &amp; Reoviruses)</b>	9	1	1	-
	<b>18-Virus purification (chemical and biological methods)</b>	9	2	-	2
	<b>19-Herpes viruses</b>	10	1	1	-
	<b>20-Virus characterization (introduction)</b>	10	2	-	2
	<b>21-Pox viruses</b>	11	1	1	-
	<b>22-Virus characterization (methods)</b>	11	2	-	2
	<b>23-Adenoviruses</b>	12	1	1	-
	<b>24-Some recent molecular techniques</b>	12	2	-	2
	<b>25-Fish virology</b>	13	1	1	-
	<b>26-Revision</b>	13	2	-	2
<b>Total</b>		<b>13</b>	<b>39</b>	<b>13</b>	<b>26</b>

#### 5-Teaching and learning methods

- 5.1- Lectures (brain storm, discussion) using board, data shows.
- 5.2-Self learning by preparing essays and presentations (internet researches and faculty library)
- 5.3- Practical (application of laboratory diagnosis and data show).



## 7-Student assessment

### 7.1. Assessments methods:

Method	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U	I.S	P&P.S	G.S
Final Exam	a1-a2-a3-a4-a5	b2-b3	c4	
Practical Exam	a1-a3	b1-b4	c1-c2-c3-c4	
Oral Exam	a1-a2-a3-a4-a5	b1-b2-b3-b4	c1-c4	d2-d4

### 7.2. Assessment schedules/semester:

Method	Week(s)
Practical exam	14 <sup>th</sup> week
written exam	15 <sup>th</sup> week
Oral Exam	managed by the department
Student activities	All over the semester

### 7.3. Weight of assessments/semester

Assessment	Weight of assessment
written exam	50%
Practical exam	20%
Oral Exam	20%
Student activities	10%
total	100%

## 8- List of references

### 8.1. Notes and books

-Bases in veterinary virology (staff members of virology department).

### 8.2. Essential books:

- Sharma,S.N. (2009): Veterinary Virology volume 4.

### 8.3. Recommended texts

-D. E. White, Frank J. Fenner (2007): Virology Principles and Applications

-D. E. White, Frank J. Fenner (2004): Medical Virology, Fourth Edition

-Arie J. Zuckerman , Jangu E. Banatvala , J. R. Pattison (2007): Principles and Practice of Clinical Virology, 4th Edition

-Alan J. Cann (2005): Principles of Molecular Virology (Standard Edition), Fourth Edition

### Journals:

-www.Sciencedirect.com

-www.OIE.int.com

-www.pubmed.gov

-www.asmnews@asmusa.org

**Course Coordinators**

**Head of Department**

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## Matrix of Intended learning outcomes of course (ILOs)

	Topics	Wk	Knowledge and Understanding	Intellectual Skills	Practical and Professional Skills	General & Transferable Skills
			K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1	1- Basis for Virus Taxonomy	1	1	1		1,2,3,4
2	2- Egg inoculation (introduction-Principal)	1	4	2,4	1,3	1,2,3,4
3	3- Picornaviruses	2	1,2,3,4,5	2,3,4	1,3,4	1,2,3,4
4	4- Egg inoculation (Types -procedures)	2	4	2,4	1,3	1,2,3,4
5	5- Orthomyxoviruses.	3	1,2,3,4,5	2,3,4	1,3,4	1,2,3,4
6	6- Tissue culture (introduction-Principal)	3	4	2,4	1,3	1,2,3,4
7	7- Paramyxoviruses	4	1,2,3,4,5	2,3,4	1,3,4	1,2,3,4
8	8- Tissue culture (Types -procedures)	4	4	2,4	1,3	1,2,3,4
9	9- Corona viruses.	5	1,2,3,4,5	2,3,4	1,3,4	1,2,3,4
10	10-Virus titration (introduction-Principal)	5	4	2,4	1,2,3	1,2,3,4
11	11- Birna viruses	6	1,2,3,4,5	2,3,4	1,3,4	1,2,3,4
12	12-Virus titration (Types -procedures)	6	1,3	1,4	1,4	1,2,3,4
13	13- Rhabdoviruses	7	1,2,3,4,5	2,3,4	1,3,4	1,2,3,4
14	14-Virus neutralization	7	4	2,4	1,2,3	1,2,3,4
15	15-Arboviruses (Togaviruses & Flaviviruses)	8	1,2,3,4,5	2,3,4	1,3,4	1,2,3,4
16	16-Virus purification (physical methods)	8	4	2,4	1,2,3,4	1,2,3,4
17	17-Arboviruses (Bunyaviruses & Reoviruses)	9	1,2,3,4,5	2,3,4	1,3,4	1,2,3,4
18	18-Virus purification (chemical and biological methods)	9	4	2,4	1,2,3,4	1,2,3,4
19	19-Herpes viruses	10	1,2,3,4,5	2,3,4	1,3,4	1,2,3,4
20	20-Virus characterization (introduction)	10	4	2,4	1,2,3,4	1,2,3,4
21	21-Pox viruses	11	1,2,3,4,5	2,3,4	1,3,4	1,2,3,4
22	22-Virus characterization (methods)	11	4	2,4	1,2,3,4	1,2,3,4
23	23-Adenoviruses	12	1,2,3,4,5	2,3,4	1,3,4	1,2,3,4
24	24-Some recent molecular techniques	12	1,3	1,2,4	1,4	1,2,3,4
25	25-Fish virology	13	1,2,3,4,5	2,3,4	1,3,4	1,2,3,4
26	26-Revision	13	1,2,3,4,5	1,2,3,4	1,2,3,4	1,2,3,4