



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

<b>1-Basic information</b>	
<b>Course Code:</b>	<b>VIR:3132</b>
<b>Course title :</b>	<b>Virology (General)</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 virus structure, physico-chemical and biological properties of viruses and how to approach a problems caused by a viral agent.**

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

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

**By the end of this course the student should be able to:**

- a1. Recognize the importance of study in the field of virology.
- a2. Describe the physico-chemical and biological properties of viruses.
- a3. Mention the laboratory diagnosis methods that used in virology field.
- a4. Explain the Mol. Biology of viruses
- a5. Identify virus structure.

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

**By the end of this course the student should be able to:**

- b1- Interpret the results of serological and molecular techniques.
- b2- Differentiate viruses from other micro-organisms.
- b3- Illustrate the virus replication strategy and infectious cycle.
- b4- Formulate a systematic approach for laboratory diagnosis of virus diseases.

#### **C- Professional and practical skill**

**By the end of this course the student should be able to:**

- c1- Perform serological tests for virus identification.
- c2- Use molecular biology for virus diagnosis and vaccine preparation methods.
- c3- Apply treatment by different antiviral chemotherapy.
- c4- Employ all the gained knowledge in virological practice in skillful pattern.

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

**By the end of studying the course, the student should be able to:**

- d1- Work in team and respect the legal ethical rules
- d2- Classify different duties.
- d3- Utilize information and communicating skills.
- d4- Communicate effectively with public, colleagues and appropriate authorities.



#### 4-Topics and contents

Course	Topic	week	No. of hours	Lectures	Practical
Third year-Virology (Lec. 1 h./week, Pract.2 h./week)	1- Introduction to virology	1	1	1	-
	2- Scheme and sampling	1	2	-	2
	3- Differences between viruses and virus-like agents	2	1	1	-
	4-AGPT	2	2	-	2
	5- Physical properties of viruses	3	1	1	-
	6-HA	3	2	-	2
	7- Chemical properties of viruses	4	1	1	-
	8-HI	4	2	-	2
	9- Virus structure.	5	1	1	-
	10- IFA (introduction and principle)	5	2	-	2
	11- Virus multiplication	6	1	1	-
	12- IFA (Types and procedures)	6	2	-	2
	13- Pathogenesis of virus infection	7	1	1	-
	14- CFT	7	2	-	2
	15- Types of viral infection	8	1	1	-
	16- Immunoperoxidase	8	2	-	2
	17- Host resistance against infection	9	1	1	-
	18- ELISA (introduction and principle)	9	2	-	2
	19- Interference and interferon	10	1	1	-
	20- ELISA (Types and procedures)	10	2	-	2
	21- Immunity against viral diseases	11	1	1	-
	22- ELISA (Solid phase)	11	2	-	2
	23- Vaccination against viral diseases	12	1	1	-
	24- DOT-ELISA	12	2	-	2
	25- Virus-virus interaction	13	1	1	-
	26-Revision	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		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- Introduction to virology	1	1		4	1,2,3,4
2	2- Scheme and sampling	1	1	4	2,4	1,2,3,4
3	3- Differences between viruses and virus-like agents	2	1,2,5	4	4	1,2,3,4
4	4-AGPT	2	1,3	1,4	1,4	1,2,3,4
5	5- Physical proprieties of viruses	3	1,2	1,3,4	4	1,2,3,4
6	6-HA	3	1,3	1,4	1,4	1,2,3,4
7	7- Chemical properties of viruses	4	1,4	2,4	2,4	1,2,3,4
8	8-HI	4	1,3	1,4	1,4	1,2,3,4
9	9- Virus structure.	5	1,4	2,4	2,4	1,2,3,4
10	10- IFA (introduction and principle)	5	1,3	1,4	1,4	1,2,3,4
11	11- Virus multiplication	6	1,4	2,4	2,3,4	1,2,3,4
12	12- IFA (Types and procedures)	6	1,3	1,4	1,4	1,2,3,4
13	13- Pathogenesis of virus infection	7	1	4	2,4	1,2,3,4
14	14- CFT	7	1,3	1,4	1,4	1,2,3,4
15	15- Types of viral infection	8	1,2,3,5	2,4	1,2,3,4	1,2,3,4
16	16- Immunoperoxidase	8	1,3	1,4	1,4	1,2,3,4
17	17- Host resistance against infection	9	1,2,3,5	2,4	1,2,3,4	1,2,3,4
18	18- ELISA (introduction and principle)	9	1,3	1,4	1,4	1,2,3,4
19	19- Interference and interferon	10	1,2,3,5	2,4	1,2,3,4	1,2,3,4
20	20- ELISA (Types and procedures)	10	1,3	1,4	1,4	1,2,3,4
21	21- Immunity against viral diseases	11	1,2,3,5	2,4	1,2,3,4	1,2,3,4
22	22- ELISA (Solid phase)	11	1,3	1,4	1,4	1,2,3,4
23	23- Vaccination against viral diseases	12	1,2,3,5	2,4	1,2,3,4	1,2,3,4
24	24- DOT-ELISA	12	1,3	1,4	1,4	1,2,3,4
25	25- Virus-virus interaction	13	1,2,3,5	2,4	1,2,3,4	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