





# Specification for infectious diseases of ruminants course 2019/2020

# **A-Affiliation**

| 1. | Relevant program               | Bachelor of Veterinary Medical<br>Science (BVMSc) |
|----|--------------------------------|---|
| 2. | Department offering the course | Animal medicine                                   |

**Date of specification approval**: ministerial decree No. 1727 on 26/4/2017 (Approved in this template by the department council on 1/10/2019)

# **B-Basic information**

| 1. | Course title    | Infectious Diseases of ruminants |
|----|-----------------|----------------------------------|
| 2. | Course code     | 516 (B) II                       |
| 3. | Level           | 5 <sup>th</sup> year             |
| 4. | Semester        | 2 <sup>nd</sup> semester         |
| 5. | Total hours     | 7                                |
| 6. | Lecture hours   | 3                                |
| 7. | Practical hours | 3                                |

# **C-Professional Information**

# 1- Course learning objectives

The aim of this course is to provide basic veterinary education in the field of infectious diseases (horses, donkeys, mules, beside foals, camels, dogs and cats) to enable students to gain skills and ability to deal with etiology, accurate field & laboratory diagnosis, differential diagnosis, treatment & control of such diseases. Moreover, understanding the epidemiology of infectious diseases to reach a correct diagnosis and how to deal with a clinical case and plan the specific measures to control outbreaks in the field and awareness of zoonotic importance of some infectious diseases affecting such animals (Zoonotic diseases).

# 2- Intended learning outcomes of the course (ILOs):

# a- Knowledge and understanding

After successful completion of the course the students should be able to:

- a.1. Mention the importance of environmental aspect as well as management principles and systems in epidemiology of infectious diseases.
- a.2. Identify the nature of infectious diseases of cattle, buffaloes, beside calves, sheep and goats and economic impact and zoonotic importance of diseases
- a.3.Define the various infectious etiological determinants & common terms in field of epidemiology and identify predisposing factors & the cause-disease interaction through the pathogenesis
- a.4. Identify specific epidemiological pattern of all animals infectious







diseases

- a.5.Describe different clinical manifestations of diseases and macroscopic pathological lesions
- a.6.Summarize the most appropriate aids in diagnosis
- a.7. Comprehend differential diagnosis between the diseases
- a.8.Design a treatment schedule for each disease and approach the therapy
- a.9. Describe a protocol for prevention and accurate measures for control of infectious diseases

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

After successful completion of the course the students should be able to:

- b.l. Inspect the animals clinically and collect laboratory samples.
- b.2. Know good handling with a problem and how to make a problem list and differential diagnosis based on clinical findings
- b.3. Collect and analyze epidemiological data and criticize how data collected and handled
- b.4. Use the appropriate tools for diagnosis and analyze reading and use acquiring skill in interpretation of the results.
- b.5. Develop skills for differential diagnosis
- b.6.Criticise appropriate solution to manage infectious disease cases and solving the field problems either by medical or surgical intervention or culling of the infected animals from the herd
- b.7. Analyze the results obtained and construct prevention plan and schedule of control programs for infectious diseases

# c- Professional and practical skills

After successful completion of the course the students should be able to:

- c.l. Obtain a history of animal cases (either individual or in herd) in the cli
- c.2. Carry out clinical examination and do collections of samples for labor diagnosis.
- c.3.Apply different diagnostic tools in diagnosis of infectious diseases (one) and interpret and evaluate the common clinical and laboratory diagnoredures.
- c.4.Perform differentiation between infectious diseases.
- c.5. Evaluate variable chemotherapeutics and use the drug of choice
- c.6.Manage the epidemics and solve the field problem in relation to an and public health aspect
- c.7. Write a report about animals health status and biosecurity of an premises
- c.8.Employ epidemiological information and recent diagnostic aids to problems of diseases diagnosis & control
- c.9.Design and evaluate emergency plan during epidemics affecting run animals
- c.10.Evaluate the risk of contamination, cross infection and predisp







factors for diseases onset

c.11.Conduct and choose a correct contact with relevant departments and other intended to reach a final correct diagnosis

### d- General and transferable skills

After successful completion of the course the students should have the following skills

- d1- Searching skill
- d2- Communication skill
- d3- Cooperate with other veterinary hospitals, clinics and units in the field.
- d4- Search for new technological methods for practical diagnosis
- d5- problem solving skill

# 3- Course contribution in the program ILOs:

| Coi | urse ILOS                         | Program ILOS         |
|-----|-----------------------------------|----------------------|
| A   | Knowledge and understanding       | a <sup>10</sup>      |
| В   | Intellectual skills               | b <sup>7,12</sup>    |
| C   | Professional and practical skills | c <sup>3,5</sup>     |
| D   | General and transferable skills   | d <sup>1,3,5,6</sup> |

#### 3.1- Course contents

| Topic                                | Lecture hours | Practical |
|--------------------------------------|---------------|-----------|
|                                      |               | hours     |
| Bacterial diseases of cattle         | 6             | -         |
| Viral diseases of cattle             | 5             | -         |
| Parasitic diseases of cattle         | 2             | -         |
| Bacterial diseases of buffaloes      | 2             | -         |
| Viral diseases of buffaloes          | 2             | 111       |
| Parasitic diseases of buffaloes      | 4             | · h       |
| Bacterial diseases of calves         | 2             | - \       |
| Viral diseases of calves             | 4             |           |
| Parasitic diseases of calves         | 4             |           |
| Bacterial diseases of sheep& goats   | 4             | -         |
| Viral diseases of sheep& goats       | 6             | -         |
| Parasitic diseases of sheep & goats  | 4             | -         |
| Clinical exam. of cattle & buffaloes | -             | 9         |
| Clinical exam. of sheep & goats      | -             | 9         |
| Clinical exam. of calves             | -             | 6         |
| Sampling & Laboratory investigations | -             | 6         |
| Field diagnosis                      | -             | 6         |
| Chemotherapy                         | -             | 4         |
| Vaccine & vaccination                | -             | 4         |
| Total                                | 45            | 45        |

The midterm and practical exams are included during the semester 3.2- ILOs matrix:







| Topic                                      | A)<br>Knowledge and<br>understanding          | B) Intellectual skills          | C)<br>Professional and<br>practical skills | D)<br>General and<br>transferable<br>skills |
|--|---|---------------------------------|--|---|
| Bacterial<br>diseases of<br>cattle         | a1,a2,a3,a4,a5,a6,a<br>7,a8,a9                | b1,b2,b3,b4,b5,b<br>6,b7        | c1,c2,c3,c4,c6,c7,c<br>9,c11               | d1,d2,d3,d4,d<br>5                          |
| Viral diseases of cattle                   | a1,a2,a3,a4,a5,a6,                            | b1,b2,b3,b4,b5,b                | c1,c2,c3,c4,c6,c7,                         | d1,d2,d3,d4,                                |
|  | a7,a8,a9                                      | 6,b7                            | c9,c11                                     | d5  |
| Parasitic diseases of cattle               | a1,a2,a3,a4,a5,a6,                            | b1,b2,b3,b4,b5,b                | c1,c2,c3,c4,c6,c7,                         | d1,d2,d3,d4,                                |
|  | a7,a8,a9                                      | 6,b7                            | c9,c11                                     | d5  |
| Bacterial diseases of buffaloes            | a1,a2,a3,a4,a5,a6,                            | b1,b2,b3,b4,b5,b                | c1,c2,c3,c4,c6,c7,                         | d1,d2,d3,d4,                                |
|  | a7,a8,a9                                      | 6,b7                            | c9,c11                                     | d5  |
| Viral diseases of buffaloes                | a1,a2,a3,a4,a5,a6,                            | b1,b2,b3,b4,b5,b                | c1,c2,c3,c4,c6,c7,                         | d1,d2,d3,d4,                                |
|  | a7,a8,a9                                      | 6,b7                            | c9,c11                                     | d5  |
| Parasitic diseases of buffaloes            | a1,a2,a3,a4,a5,a6,                            | b1,b2,b3,b4,b5,b                | c1,c2,c3,c4,c6,c7,                         | d1,d2,d3,d4,                                |
|  | a7,a8,a9                                      | 6,b7                            | c9,c11                                     | d5  |
| Bacterial<br>diseases of<br>calves         | a1,a2,a3,a <mark>4,</mark> a5,a6,<br>a7,a8,a9 | b1,b2,b3,b4,b5,b<br>6,b7        | c1,c2,c3,c4,c6,c7,<br>c9,c11               | d1,d2,d3,d4,<br>d5                          |
| Viral diseases of calves                   | a1, <mark>a2,</mark> a3,a4,a5,a6,             | b1,b <mark>2,b3,b4</mark> ,b5,b | c1,c2,c3,c4,c6,c7,                         | d1,d2,d3,d4,                                |
|  | a7,a8,a9                                      | 6,b7                            | c9,c11                                     | d5  |
| Parasitic diseases of calves               | a1,a2,a3,a4,a5,a6,                            | b1,b2,b3,b4,b5,b                | c1,c2,c3,c4,c6,c7,                         | d1,d2,d3,d4,                                |
|  | a7,a8,a9                                      | 6,b7                            | c9,c11                                     | d5  |
| Bacterial diseases of sheep& goats         | a1,a2,a3,a4,a5, <mark>a6</mark> ,             | b1,b2,b3,b4,b5,b                | c1,c2,c3,c4,c6,c7,                         | d1,d2,d3,d4,                                |
|  | a7,a8,a9                                      | 6,b7                            | c9,c11                                     | d5  |
| Viral diseases<br>of sheep&<br>goats       | a1,a2,a3,a4,a5,a6,<br>a7,a8,a9                | b1,b2,b3,b4,b5,b<br>6,b7        | c1,c2,c3,c4,c6,c7,<br>c9,c11               | d1,d2,d3,d4,<br>d5                          |
| Parasitic diseases of sheep & goats        | a1,a2,a3,a4,a5,a6,                            | b1,b2,b3,b4,b5,b                | c1,c2,c3,c4,c6,c7,                         | d1,d2,d3,d4,                                |
|  | a7,a8,a9                                      | 6,b7                            | c9,c11                                     | d5  |
| Clinical exam. of cattle & buffaloes       | a5,a6,a7,a8,a9                                | b5,b6,b7                        | c5,c6,c7,c8,c9,c10,<br>c11                 | d1,d2,d3,d4,<br>d5                          |
| Clinical exam. of sheep & goats            | a5,a6,a7,a8,a9                                | b5,b6,b7                        | c5,c6,c7,c8,c9,c1<br>0,c11                 | d1,d2,d3,d4,<br>d5                          |
| Clinical exam. of calves                   | a5,a6,a7,a8,a9                                | b5,b6,b7                        | c5,c6,c7,c8,c9,c1<br>0,c11                 | d1,d2,d3,d4,<br>d5                          |
| Sampling &<br>Laboratory<br>investigations | a5,a6,a7,a8,a9                                | b5,b6,b7                        | c5,c6,c7,c8,c9,c1<br>0,c11                 | d1,d2,d3,d4,<br>d5                          |
| Field diagnosis                            | a5,a6,a7,a8,a9                                | b5,b6,b7                        | c5,c6,c7,c8,c9,c1                          | d1,d2,d3,d4,                                |







|                       |    |     | 0,c11                      | d5                 |
|-----------------------|----|-----|----------------------------|--------------------|
| Chemotherapy          | a8 | ,b6 | c5,c6,c7,c8,c9,c1<br>0,c11 | d1,d2,d3,d4,<br>d5 |
| Vaccine & vaccination | a9 | b7  | c5,c6,c7,c8,c9,c1<br>0,c11 | d1,d2,d3,d4,<br>d5 |

# 4- Teaching, learning and assessment methods:

|                                   |     | Teaching and     |     |   |   |    |    |    | assessment method |         |      |           |         |
|-----------------------------------|-----|------------------|-----|---|---|----|----|----|-------------------|---------|------|-----------|---------|
| IL                                | Os  | Learning methods |     |   |   |    |    |    |                   |         |      |           |         |
|                                   |     | L                | P&M | D | P | Ps | Bs | Ft | semester          | midterm | oral | practical | written |
|                                   | a1  | X                | X   | X | 0 | 0  | X  | 0  | X                 | X       | X    | 0         | X       |
| م <u>تو</u>                       | a2  | X                | X   | X | 0 | 0  | X  | 0  | X                 | X       | X    | 0         | X       |
| an<br>Jing                        | a3  | X                | X   | X | 0 | 0  | X  | 0  | X                 | X       | X    | 0         | X       |
| dge                               | a4  | X                | X   | X | 0 | 0  | X  | 0  | X                 | X       | X    | 0         | X       |
| vle                               | a5  | X                | X   | X | 0 | 0  | X  | 0  | X                 | X       | X    | 0         | X       |
| Knowledge and understanding       | a6  | X                | X   | X | 0 | 0  | X  | 0  | X                 | X       | X    | 0         | X       |
| ⅓ n                               | a7  | X                | X   | X | 0 | 0  | X  | 0  | X                 | X       | X    | 0         | X       |
|                                   | a8  | X                | X   | X | 0 | 0  | X  | 0  | X                 | X       | X    | 0         | X       |
|                                   | a9  | X                | X   | X | 0 | 0  | X  | 0  | X                 | X       | X    | 0         | X       |
| lls                               | b1  | X                | X   | X | 0 | X  | X  | 0  | X                 | X       | X    | 0         | X       |
| ski                               | b2  | X                | X   | X | 0 | X  | X  | 0  | X                 | X       | X    | 0         | X       |
| ıal                               | b3  | X                | X   | X | 0 | X  | X  | X  | X                 | X       | X    | 0         | X       |
| Intellectual skills               | b4  | X                | X   | X | 0 | X  | X  | X  | X                 | X       | X    | 0         | X       |
| elle                              | b5  | X                | X   | X | 0 | X  | X  | X  | X                 | X       | X    | 0         | X       |
| Int                               | b6  | X                | X   | X | 0 | X  | X  | X  | X                 | X       | X    | 0         | X       |
|                                   | b7  | X                | X   | X | 0 | X  | X  | X  | X                 | X       | X    | 0         | X       |
| dij.                              | c1  | 0                | X   | X | X | X  | 0  | X  | X                 | 0       | X    | X         | 0       |
| 1 sk                              | c2  | 0                | X   | X | X | X  | 0  | X  | X                 | 0       | X    | X         | 0       |
| ica                               | c3  | 0                | X   | X | X | X  | 0  | X  | X                 | 0       | X    | X         | 0       |
| act                               | c4  | 0                | X   | X | X | X  | 0  | X  | X                 | 0       | X    | X         | 0       |
| Id I                              | c5  | 0                | X   | X | X | X  | 0  | X  | X                 | 0       | X    | X         | 0       |
| anc                               | с6  | 0                | X   | X | X | X  | 0  | X  | X                 | 0       | X    | X         | 0       |
| ıal                               | c7  | 0                | X   | X | X | X  | 0  | X  | X                 | 0       | X    | X         | 0       |
| ior                               | c8  | 0                | X   | X | X | X  | 0  | X  | X                 | 0       | X    | X         | 0       |
| ess                               | c9  | 0                | X   | X | X | X  | 0  | X  | X                 | 0       | X    | X         | 0       |
| Professional and practical skill. | c10 | 0                | X   | X | X | X  | 0  | X  | X                 | 0       | X    | X         | 0       |
|                                   | c11 | 0                | X   | X | X | X  | 0  | X  | X                 | 0       | X    | x         | 0       |
| zill                              | d1  | X                | X   | 0 | 0 | X  | X  | 0  | X                 | 0       | X    | 0         | X       |
| ıl sł                             | d2  | 0                | 0   | 0 | X | 0  | 0  | X  | X                 | 0       | X    | X         | 0       |
| General skill                     | d3  | 0                | 0   | X | 0 | 0  | 0  | X  | X                 | 0       | X    | 0         | 0       |
| Jen                               | d4  | 0                | 0   | 0 | X | X  | 0  | X  | X                 | 0       | X    | X         | X       |
|                                   | d5  | 0                | 0   | 0 | X | 0  | 0  | X  | X                 | 0       | X    | 0         | 0       |

L:Lecture, P&M: Presentations & Movies, D&S: Discussions & Seminars PT: Practical, Ps: Problem solving, Bs: Brain storming, Ft: field trip

# 5- Assessment timing and grading:

| Assessment method               | timing                | grade |
|---------------------------------|-----------------------|-------|
| Mid-term exam and semester work | 6 <sup>th</sup> week  | 15    |
| Practical exam                  | 14 <sup>th</sup> week | 20    |
| oral exam                       | End of semester       | 15    |
| Written exam                    | End of semester       | 50    |







| total | 100 |
|-------|-----|
|-------|-----|

# **6- List of references**

# **6.1- Course notes:**

Infectious diseases of cattle & buffaloes, calves, sheep & goats for 5<sup>th</sup> grade students edited by staff members

# **6.2- Essential books (text books)**

- Pierre Charles Lefevre (2010) Infectious and Parasitic Diseases of Livestock.
- Michael Thrusfield (2007) Veterinary Epidemiology
- O.M. Radostits (2007) Veterinary Medicine A textbook of the diseases of cattle, sheep, pigs, goats and horses

# **6.3- Recommended books**

- Course note.
- Pierre Charles Lefevre (2010) Infectious and Parasitic Diseases of Livestock.

# 6.4- Periodicals, Web sites, ... etc

- Veterinary Journal of Small Ruminants.
- American Journal of Veterinary Medical Association
- OIE, FAO, WHO.
- Benha veterinary medical journal
- www.OIE.int.org
- www.FAO.int.org
- www.WHO.int.org
- www.ekb.eg

# 7- Facilities required for teaching and learning

- Teaching hall (data show, white board).
- Equipped laboratory of veterinary medical diagnosis.
- Samples of veterinary drug and vaccine.
- Veterinary hospital
- Faculty education farm
- Central laboratory

| Course coordinator: | Prof Dr | FAISAL KHALL | I IRRA | HIM HAMODA |
|---------------------|---------|--------------|--------|------------|
|                     |         |              |        |            |

Head of department Prof. Dr. FAISAL KHALIL IBRAHIMHAMODA Signature Date 1/10/2019