Course Specifications

Clinical Pathology

Hematology

Benha University Faculty of veterinary medicine

Programme(s) on which the course is given **Bachelor of veterinary medical science**

Department offering the course **Department of clinical pathology**

Academic year / level **4th year, 1st semester**

Date of specification approval minstrel decree No 921, on

(Then approved in this template by department council on 17/ 1/ 2011)

A- Basic Information

Title: Hematology **Code: Vet 00647a**

Lecture: 1 hour **Practical: 3 hours** **Total: 4 hours**

B- Professional Information

1- Overall aims of course

Provide basic information about the blood constituents including formation of different blood cells, its morphology, and methods of evaluation and laboratory diagnosis of their disorders. Also understanding the principles of differentiation between different types of hematopoietic neoplasia and hemostatic disorders

2- Intended learning outcomes of the course (ILOs)

A- Knowledge and understanding

A1- Understand the basic knowledge of blood constituents

A2- Ilustrate principles of blood cells maturation and release to circulation

A3- Describe the laboratory method of the blood film spreading and evaluation

A4- Understand the normal morphology of blood cells and differential diagnosis of its abnormalities

A5- Know the laboratory method of bone marrow examination and interpret the result

A6- Mention the practice of evaluation of complete blood picture (CBC)

A7- Recognize the fundamental aspect and diagnosis of anemia, polycythemia, leukogram disorders

A8- List the hematopoietic neoplasia and their differential diagnosis

A9- Mention the laboratory methods of counting of reticulocytes and platelets

A10- Describe hemostasis and its disorders

B- Intellectual skills

B1- Analyze blood cells disorders.

B2- Conclude of the type of anemia and polycythemia.

B3- Judge completes blood picture (CBC) report.

B4 - Determine the normal and abnormal shapes of erythrocytes in different animal species

B5 - Assess the function and morphology of leukocytes

B6 - Judge the results of leukogram

B7- determine hemopoetic neoplasia

B8-Assess differential diagnosis of leukemia

B9 - Estimate hemostatic disorders

C- Professional and practical skills

C1- Identify the blood cells of the different species of animals.

C2- Collect and analyze of the blood samples

C3- Prepare of diluting fluids stains and blood films.

C4- Use of clinical data to help in diagnosis of blood diseases.

D- General and transferable skills

D1- use computer and enhance the presentation skills

D2- Consult with veterinarian to advise the treatment

D3- Solve diagnostic problems

D4- Schedule tasks to save time

3- Contents

Topic	No. of hours	Lecture	Practical
1- General principles of hematology	6		6
2- Hematopoiesis	1	1	-

3- Erythrocyte morphology and disorders	4	1	3
4- Evaluation of erythrocytes	13	1	12
5- Anemia	4	2	2
6- Polycythemia	1	1	-
7- Leukocyte morphology, function and kinetic	4	1	3
8- Evaluation of leukocytes	3	-	3
9- Interpretation of leukogram	5	2	3
10- Hematopoietic neoplasia	3	2	4
11- Hemostatic disorders	5	3	3
Total	**53**	**14**	**39**

4- content-ILOs matrix

Content	**ILOs**			
	Knowledge and understanding	**Intellectual**	**Professional and practical**	**General and transferable**
1- General principles of hematology	**A1**	**B1**		
2- Hematopoiesis	**A2**	**B3, B7**	**C3**	**D2**
3- Erythrocyte morphology and disorders	**A4**	**B4**	**C1 , C2, C3**	**D2**
4- Evaluation of erythrocytes	**A3,a4, a5**	**B3**	**C1, C3, C4**	**D1, D4**
5- Anemia	**A6, a7**	**B2, b3**	**C2, C4**	**D3**
6- Polycythemia	**A6,A7**	**B2, b3**	**C2, C4**	**D3**
7- Leukocyte morphology, function and kinetic	**A6,A7**	**B6**	**C1, C2 C3**	**D1, D4**
8- Evaluation of leukocytes	**A6, a7**	**B3, B6**	**C1 , C2, C3**	**D1, D4**
9- Interpretation of leukogram	**A3,a4, a5**	**B3, B6**	**C1 , C4**	**D1, D2, D3**

10- Hematopoietic neoplasia	**A8**	**B7, B8**	**C1 , C2**	**D3**
11- Hemostatic disorders	**A9, a10**	**B9**	**C1, C2**	**D3**

5- Assessment-ILOS matrix

Assessment	**ILOs**			
	Knowledge and understanding	**Intellectual**	**Professional and practical**	**General and transferable**
1.Mid – Term exam	**A1, A2, A3, A4, a5, A6, a7**	**B1,B2, B3 B7**	**C1 , C2, C3**	
2.Practical exam	**A3,a5**	**B1, B3, B4**	**C1, C 2, C 3, C 4, C 5, C 6, C 7, C 8, C 9**	**D2**
3. Oral exam	**A4, A7, a8, a9, a10**	**B2,b3, b7,b8**		**D2**
4. Final term exam	**A1,a2, a4, a6,a7, a8, a10**	**B2, b3, b6, b7, b8, b9**		
5.semister work	**A2,a3,a4**	**B1**	**C1**	**D1, D3, D4**

6- Teaching and learning methods

6.1- Color plates.

6.2- PowerPoint (Data show) presentations.

6.3- Slide projector.

7- Student assessment methods

7.1- Midterm examination

7.2- Practical examination

7.3- Oral examination

7.4- Written examination

7.4- Semester work

Assessment schedule

Assessment 1 Midterm examination week 7

Assessment 2	Practical examination	week 14
Assessment 3	Written examination	week 15
Assessment 4	Oral examination	week 15
Assessment 4	semester work	received at week 14

Weighting of assessments

1. Midterm examination	5%
2. Final term examination	50%
3. Oral examination	20%
4. Practical work	20%
5. Semester work	5%
Total	100%

8- List of references

8.1- Course notes

- Clinical pathology part 1 (hematology)
- Practical part 1 and laboratory notes
- Color atlas

8.2- Essential books (text books)

- Veterinary Clinical Pathology. Coles. 4th Edition, (1986)

8.3- Recommended books

- Dacie and Lewis, Practical Hematology (2001)
- Veterinary laboratory medicine, Duncan, Prasse and Mahaffey (2003)

8.4- Periodicals, Web Sites

- Journal of American Veterinary Medical Association.

9- Facilities required for teaching and learning

1. Clinical pathology Laboratory
2. Kits

3. Lab animals
4. Spectrophotometer
5. Data show
6. Computer
7. Microscopes

Course coordinator and Head of department:

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Date: