Veterinary Physiology

DIPLOMA COURSE SPECIFICATION

A. BASIC INFORMATION

University:	**Sadat City**
Faculty:	**Veterinary Medicine**
Program on which the course is given:	**Diploma of Veterinary Pharmacology and Pharmaceuticals**
Department offering the Course:	**Physiology**
Course code:	**928**
Course title:	**Veterinary Physiology**
Lecture (hr/week):	**2**
Practical (hr/week):	**2**
Course coordinator:	**Dr. Sherif M. Shawky**

B. PROFESSIONAL INFORMATION

١) Overall aims of course

Upon successful completion of the course, the student will be able to:

- ❖ Identify the advanced veterinary medical knowledge and skills essential for the master of physiology and necessary for further training and practice in the field of physiology.

٢) Intended learning outcomes of course (ILOs)

a) KNOWLEDGE AND UNDERSTANDING

By the end of this course, the graduate should be able to:

a.1. Discuss the actions of drugs.
a.2. Describe the normal physiological standards of different animals under different conditions.
a.3. Identify the physiological functions of different systems in different animals' species.
a.4. Explain the applied physiology.
a.5. List the principles of environmental impacts on physiological pattern in different animals.
a.6. Mention the laboratory experiments to explain the physiological terms.
a.7. List the stressful conditions and its effects on animal systemic functions.
a.8. Clarify the principles and fundamentals of quality of assurance of professional practice in the field of physiology.

b) INTELLECTUAL SKILLS

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

b.1. Establish a good link between drugs chemical structure and their pharmacological actions.
b.2. Interpret quantitative information of physiology in graphs, figures, tables and equations and appropriate statistical tests.
b.3. Plan and conduct a research task for interpreting the physiological functions in different animals.
b.4. Investigate the interaction between different systemic functions of different animals.
b.5. Analyze the given data and problem solving in the field of physiology.
b.6. Organize self-learning skills in solving problems in the field of physiology.
b.7. Evaluate the different tools that help reaching the understanding level in field of physiology.
b.8. Conduct the research studies that adds to knowledge.
b.9. Plan to improve performance in the field of physiology.
b.10. Interpret his/her ideas with solid scientific facts.

c) PROFESSIONAL AND PRACTICAL SKILLS

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

c.1. Carry out decisions regarding common clinical situation using appropriate problem solving skills and reverent ethical principle.
c.2. Evaluate the principle and limitations of a range of more advanced practical techniques.
c.3. Apply appropriate basic laboratory equipment safely and efficiently.
c.4. Design appropriate experiments and sampling programs in the laboratory, bearing in mind technical, logistical safety and ethical limitations.
c.5. Use appropriate software packages to analyze quantitative date and to present results appropriately with necessary statistical treatment.
c.6. Build the effective solutions for physiology problems involving reasonably complex information.
c.7. Participate in scientific conferences, meetings, workshops and thesis discussion that update relevant recent topics in animal physiology.

d) GENERAL AND TRANSFERABLE SKILL

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

d.1. Use the computer to enter physiology web sites.
d.2. Present reports in seminars effectively.
d.3. Work in groups, as a leader or as a college.
d.4. Participate in related scientific meetings.

٣) Topics and contents

Topic	No. of hours		
	Lectures	Practical	Total
cell physiology	2	-	2
Physiology of nervous system	10	-	10
Physiology of blood and body fluids	12	-	12
Physiology of nerve and muscle	4	-	4
Physiology of reproduction	16	-	16
Physiology of endocrine glands	16	-	16
Physiology of urinary system	6	-	6
Physiology of respiration	6	-	6
Physiology of digestion	6	-	6
Physiology of cardiovascular system	6	-	6
Physiology of metabolism and body temperature regulation	4	-	4
Hematology	-	20	20
Kidney function test	-	8	8
Blood pressure and capillary circulation	-	10	10
Digestive enzyme assay	-	10	10
Pregnancy test and estrus detection	-	10	10
Semen analysis	-	10	10
Hormonal assay	-	10	10
Muscle and nerve preparation	-	10	10
Total	**88**	**88**	**176**

٤) Teaching and learning methods

4.1. Lectures.
4.2. Practical.
4.3. Self-learning activities.

٥) Student assessment

a. METHODS:

1- Written examination	For assessment of knowledge, back calling and Intellectual skills
2- Practical examination	For assessment of practical and professional skill.

3- Oral examination	For assessment of knowledge and Intellectual skills
4- Student activities	For assessment of knowledge and general and transferable skills

b. MATRIX ALIGNMENT OF THE MEASURED ILOS/ ASSESSMENTS METHODS:

	K.U (a)	I.S (b)	P.P.S (c)	G.S (d)
Written exam	**1-8**	**1,2,8,9,10**		**-**
Practical exam		**3,4,5,6**	**1-7**	**-**
Oral exam	**1,2,5,6**	**1,2,7,10**		**-**
Student activities (assay, seminar, etc.)		**6,9**		**1-4**

c. WEIGHT OF ASSESSMENTS:

Assessment	Allocated Mark	Evidence
Final written exam	**50%**	Marked and signed written paper
Practical exam	**20%**	Marked and signed practical exam paper
Oral exam	**20%**	Signed list of oral exam marks
Student assignments	**10%**	Representative samples of presented materials

٦) List of references

6.1. Essential textbooks

- Clinical Veterinary Physiology by Hassan A. Abdel-Rahman.
- Veterinary medical physiology by Duke's.
- Veterinary Reproduction & Obstetrics by David E. Noakes, Timothy J. Parkinson, Gary C. W. England

6.2. Recommended books

- Berne, R.M. & Levy, M.N. (eds) 1996, Principles of Physiology, 2nd edition, Mosby, Sydney.
- Bray, J.J., et al. (eds.) 1999, Lecture Notes on Human Physiology, 4th edition, Blackwell Science, Malden.
- Vander, A.J., Sherman, J.H. & Luciano, D.S. 2001, Human Physiology, 8th edition, McGraw-Hill, Boston.

6.3. Periodicals

- Journal of dairy science
- Tropical animal health and production
- Journal of animal science

- Small ruminant research
- J. of applied physiology
- J. of veterinary physiology
- J. of comparative biochemistry & physiology.

	Course coordinators	Head of department
Name	**Dr. Sherif M. Shawky**	**Prof. Dr. Shaaban Gadallah**
Signature		

Matrix alignment of course topics and ILOs

Topic	No. of hours /week		Total hours	Hours for lect.	Hours for pract.	ILOs				T&L. methods				
	Lect.	Pract.				K&U (a)	I.S (b)	P.P.S (c)	G.T.S (d)	Lect.	Pract.	Self-leaning activities	Audio visual	Case study
cell physiology	2		2	2		1	1		1-4	+		+		
Physiology of nervous system	2		10	10		1-8	1,2,4,6,8,9,10		1-4	+		+		
Physiology of blood and body fluids	2		12	12		1-8	1,2,4,6,8,9,10		1-4	+		+		
Physiology of nerve and muscle	2		4	4		1-8	1,2,4,6,8,9,10		1-4	+		+		
Physiology of reproduction	2		16	16		1-8	1,2,4,6,8,9,10		1-4	+		+		
Physiology of endocrine glands	2		16	16		1-8	1,2,4,6,8,9,10		1-4	+		+		
Physiology of urinary system	2		6	6		1-8	1,2,4,6,8,9,10		1-4	+		+		
Physiology of respiration	2		6	6		1-8	1,2,4,6,8,9,10		1-4	+		+		
Physiology of digestion	2		6	6		1-8	1,2,4,6,8,9,10		1-4	+		+		
Physiology of cardiovascular system	2		6	6		1-8	1,2,4,6,8,9,10		1-4	+		+		
Physiology of metabolism and body temperature regulation	2		4	4		1-8	1,2,4,6,8,9,10		1-4	+				
Hematology		2	20		20		3,5,7	1-7			+			
Kidney function test		2	8		8		3,5,7	1-7			+			
Blood pressure and capillary circulation		2	10		10		3,5,7	1-7			+			
Digestive enzyme assay		2	10		10		3,5,7	1-7			+			
Pregnancy test and estrus detection		2	10		10		3,5,7	1-7			+			
Semen analysis		2	10		10		3,5,7	1-7			+			
Hormonal assay		2	10		10		3,5,7	1-7			+			
Muscle and nerve preparation		2	10		10		3,5,7	1-7			+			