



University of Sadat City  
Faculty of Veterinary Medicine  
Dept. of Physiology  
(2014-2015)



# Ruminant Physiology (625P)

## PHD COURSE SPECIFICATION

### A. BASIC INFORMATION

<b>University:</b>	<b>University of Sadat City</b>
<b>Faculty:</b>	<b>Veterinary Medicine</b>
<b>Program on which the course is given:</b>	<b>PhD in Veterinary Medical Sciences (physiology)</b>
<b>Department offering the Course:</b>	<b>Physiology</b>
<b>Course code:</b>	<b>625P</b>
<b>Course title:</b>	<b>Ruminant Physiology</b>
<b>Lecture (hr/week):</b>	<b>2</b>
<b>Practical (hr/week):</b>	<b>2</b>
<b>Course coordinator:</b>	<b>Prof. Dr. Said Ibrahim Fathalla</b>

## B. PROFESSIONAL INFORMATION

### 1) Overall aims of course

Identify basic and advanced knowledge and skills of Ruminant physiology in comparison with other mammals.

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

#### a) KNOWLEDGE AND UNDERSTANDING

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

- a.1. Describe digestive physiology in ruminant..
- a.2. Recognizes reproduction of ruminant.
- a.3. Realize endocrinology of ruminant.
- a.4. Identify blood physiology of ruminant.
- a.5. Describe urinary system physiology of ruminant.

#### b) INTELLECTUAL SKILLS

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

- b.1. Interpret rumination process.
- b.2. Dissect endocrine function in ruminant.
- b.3. Analyze body fluids of ruminant.

#### c) PROFESSIONAL AND PRACTICAL SKILLS

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

- c.1. Perform microbial Fermentation examination.
- c.2. Analyze digestive enzymes activity.
- c.3. Asses estrus cycle detection.
- c.4. Investigate the methods of hormonal assay.
- c.5. Perform blood picture in ruminant.
- c.6. Analyze urine, kidney function test.

#### GENERAL AND TRANSFERABLE SKILL

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

- d.1. Work effectively as a member of a multidisciplinary team,
- d.2. Identify the essential ethical issues involved in scientific research
- d.3. Search for new information and technologies.
- d.4. Use available presentation aids (e.g. Projectors or Data Show) to present clearly and effectively a scientific topic in a tutorial, a staff meeting or the yearly scientific day.

### 3) Topics and contents

Topic	No. of hours		
	Lect.	Pract.	Total
Digestive physiology in ruminant	18	-	18
Reproduction of ruminant	20	-	20

Endocrinology of ruminant	20	-	20
Blood physiology of ruminant	20	-	20
Urinary system physiology of ruminant	10	-	10
Microbial Fermentation examination	-	10	10
Examination of digestive enzymes activity	-	20	20
Estrus cycle detection	-	10	10
Methods of hormonal assay	-	18	18
Ruminant blood examination	-	20	20
Kidney function test	-	10	10
<b>Total</b>	<b>88</b>	<b>88</b>	<b>176</b>

#### 4) Teaching and learning methods

- a. Lectures to gain knowledge and understanding skills.
- b. Practical sessions for the students to gain practical skills.
- c. Self-learning activities.

#### d. Student assessment

##### a. METHODS:

- Ñ Written exam to assess knowledge, information and intellectual skills.
- Ñ Practical exam to assess professional and practical skills.
- Ñ Oral exam to assess knowledge and information and intellectual skills.
- Ñ Student activities for assessing knowledge and general and transferable skills.

##### b. MATRIX ALIGNMENT OF THE MEASURED ILOs/ ASSESSMENTS METHODS:

	<b>K.U (a)</b>	<b>I.S (b)</b>	<b>P.P.S (c)</b>	<b>G.S (d)</b>
Written exam	1,2,3,4,5	1,2,3		
Practical exam			1,2,3,4,5,6	
Oral exam	1,2,3,4	1,2,3		
Student activities				1,2,3,4

##### c. WEIGHT OF ASSESSMENTS:

<b>Assessment</b>	<b>Allocated Mark</b>	<b>Evidence</b>
Final written exam	<b>50%</b>	Marked and signed written paper
Practical exam	<b>20%</b>	Marked and signed practical exam paper
Oral exam	<b>20%</b>	Signed list of oral exam marks
Student activities	<b>10%</b>	Assay, presentations, discussions, review

## e. List of references

### 6.1. Essential textbooks

1- Ciliard, Y., Glasser, F., Faulconnier, Y., Bocquier, F., Veissier, I., and Doreau, M. 2009, Ruminant Physiology: Digestion, Metabolism, and the effect of nutrition on reproduction and welfare, Wageningen Academic publishers.

2- David E. Noakes, Timothy J. Parkinson, Gary C. W. England 2001, Veterinary Reproduction & Obstetrics, 8<sup>th</sup> edition, Elsevier limited.

3- **William O. Reece** 2004, Dukes' Physiology of Domestic Animals, 12<sup>th</sup> edition, Cornell University Press.

4- **Berne, R.M. & Levy, M.N. (eds)** 1996, *Principles of Physiology*, 2nd edition, Mosby, Sydney.

5- **Keith B.** 2013, *Fish physiology*

### 6.3. Web sites

- ) Journal of dairy science
- ) Tropical animal health and production
- ) Journal of animal science
- ) Small ruminant research

## f. Facilities required for teaching and learning

7.1 Data-show.

7.2 Laboratory animals for experimental physiology.

7.3 Network for technology transfer.

7.4 Laboratory kits for experimental physiology.

7.5 Computer.

	Course coordinators	Head of department
Name	Prof. Dr. Said I. Fathalla	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			
	Lect.	Pract.				K.U	I.S	P.P.S	G.T.S
						(a)	(b)	(c)	(d)
Digestive physiology in ruminant	2	-	18	18		1	1		3,4
Reproduction of ruminant	2	-	20	20		2	2		1,4
Endocrinology of ruminant	2	-	20	20		3	2		1,2
Blood physiology of ruminant	2	-	20	20		4	3		1,3
Urinary system physiology of ruminant	2	-	10	10		5	3		1,4
Microbial Fermentation examination	-	2	10	-	10		1	1	1,4
Examination of digestive enzymes activity	-	2	20	-	20		3	2	1,2
Estrus cycle detection	-	2	10	-	10		2	3	1,3
Methods of hormonal assay	-	2	18	-	18		2	4	1,4
Ruminant blood examination	-	2	20	-	20		3	5	1,2
Kidney function test	-	2	10	-	10		3	6	1,3
<b>Total</b>			<b>176</b>	<b>88</b>	<b>88</b>				