



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



# Physiology of Endocrine Glands & Reproduction in Mammals (621P)

## 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>621P</b>
<b>Course title:</b>	<b>Physiology of Endocrine glands &amp; Reproduction in Mammals</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 I. Fathalla</b>

## **B. PROFESSIONAL INFORMATION**

### **1) Overall aims of course**

Identify basic and advanced knowledge and skills of reproduction mechanism in mammals and role of endocrine glands in controlling vital processes in mammalian body.

### **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. Recognize the hormone secretion mechanism.
- a.2. Recognize hormones classification.
- a.3. Define the hormone action.
- a.4. Describe control of hormone secretion.
- a.5. Identify hormonal functions.
- a.6. Recognize reproductive pattern in different mammals.
- a.7. Define fertilization mechanism.
- a.8. Describe mechanism and Control of parturition.

#### **b) INTELLECTUAL SKILLS**

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

- b.1. Interpret hormonal physiological functions.
- b.2. Investigate the hormonal control of pregnancy & parturition
- b.3. Interpret hormonal control of estrus cycle.
- b.4. Assess semen samples.

#### **c) PROFESSIONAL AND PRACTICAL SKILLS**

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

- c.1. Perform techniques for hormone level measurement.
- c.2. Asses sperm samples.
- c.3. Perform pregnancy diagnosis.
- c.4. Investigate estrus detection methods.

#### **d) 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
Hormone nature, mode of action, classification	4	-	4
Pituitary hormones.	10	-	10
Thyroid, adrenal, pineal Hormones	13	-	13
Pancreatic hormones, leptin	10	-	10
Hormones control calcium level in the blood	13	-	13
Reproductive hormones	18	-	18
Reproductive patterns in different mammals	10	-	10
Pregnancy and parturition	10	-	10
Different methods of hormonal assay	-	40	40
Estrus cycle detection	-	16	16
Pregnancy diagnosis	-	12	12
Semen analysis	-	20	20
<b>Total</b>	<b>88</b>	<b>88</b>	<b>176</b>

**4) Teaching and learning methods**

- Lectures to gain knowledge and understanding skills.
- Practical sessions for the students to gain practical skills.
- 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	1-8	1-2-3-4		
Practical exam			1-4	
Oral exam	1,2,4,6,7	1-3-4		
Student activities				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 activities	10%	Assay, presentations, discussions, review

### e. List of references

#### 6.1. Essential textbooks

- 1- **William O. Reece 2004**, Dukes' Physiology of Domestic Animals, 12<sup>th</sup> edition, Cornell University Press.
- 2- **David E. Noakes, Timothy J. Parkinson, Gary C. W. England 2001**, Veterinary Reproduction & Obstetrics, 8<sup>th</sup> edition, Elsevier limited.
- 3- **E. S. E. Hafez, B. Hafez**, Reproduction in Farm Animals
- 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
- ) J. of applied physiology
- ) J. of veterinary physiology
- ) J. of comparative biochemistry & physiology

### 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. Saaban 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 (a)	I.S (b)	P.P.S (c)	G.T.S (d)
Hormone nature, mode of action, classification	2		4	4		1,2,3			3,4
Pituitary hormones.	2		10	10		1,2,3,4,5			1,4
Thyroid, adrenal, pineal Hormones	2		13	13		1,2,3,4,5			1,2
Pancreatic hormones, leptin	2		10	10		1,2,3,4,5			1,3
Hormones control calcium level in the blood	2		13	13		1,2,3,4,5			1,4
Reproductive hormones	2		18	18		1,2,3,4,5			1,4
Reproductive patterns in different mammals	2		10	10		6			1,2
Pregnancy and parturition	2		10	10		7.8			1,3
Different methods of hormonal assay		2	40	-	40		1	1	1,4
Estrus cycle detection		2	16	-	16		3	4	1,2
Pregnancy diagnosis		2	12	-	12		2	3	1,3
Semen analysis		2	20	-	20		4	2	1,4
<b>Total</b>			<b>176</b>	<b>88</b>	<b>88</b>				