هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

اعتماد NCAAA

T15

Course Specifications
(Postgraduate Degree)

Course Title:	Physiology of Hormones
Course Code:	ZOO 534
Program:	Master
Department:	Zoology Department
College:	College of Science
Institution:	King Saud University

Table of Contents

A. Course Identification

1. Credit hours: 2 (1+1)
2. Course type ☒ Required ☐ Elective
3. Level/year at which this course is offered: 2nd level
4. Pre-requisites for this course (if any)**:** None
5. Co-requisites for this course (if any)**:** None

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	**Traditional classroom**		80
2	**Blended**		0
3	**E-learning**		10
4	**Correspondence**		0
5	**Other**		10

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	**Lecture**	12
2	**Laboratory/Studio**	24
3	**Seminars**	0
4	**Others** (specify)	0
	Total	36

* The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

B. Course Objectives and Learning Outcomes

1. Course Description

Cellular and organismal action of hormones in vertebrates. Regulation of hormones secretion, mechanism of action of hormones, hormones and blood sugar level, hormonal regulation of body fluids, regulation of calcium and phosphorus metabolism. Hormonal regulation of metabolic rate, food intake and body composition and growth. Hormonal regulation of reproduction. Hormones and animal behavior, hormones homeostasis.

2. Course Main Objective

This course aims to study the endocrine system in terms of structure, function and its role in regulating metabolism, growth and reproduction in different animals, with reference to some disorders resulting from dysfunction.

3. Course Learning Outcomes

	Course Learning Outcomes (CLOs)	Aligned PLOs*
1	**Knowledge**	
1.1	The students will have broad knowledge of endocrine glands with fine details including their structure and functions.	✓
1.2	The students will able to distinguish between the mode of action of a neurotransmitter and that of a hormone.	✓
1.3	The students will able to compare the action of peptide and steroid hormones.	✓
1...	The students will able to correlate the structure and function of the endocrine glands.	✓
2	**Skills**	
2.1	The students will able to identify the major endocrine glands in the rodent model.	✓
2.2	The students will able to recognize the histological features of the glands.	✓
2.3	Use complex electronic equipment including Powerlabs and Bioamplifiers to record endocrine data, and responses to experimental stimuli.	✓
2.4	Explain endocrine processes accurately and concisely in journal-style format and orally, using relevant scientific terminology and nomenclature.	✓
2.5	The students will have hands on experiments of ELISA and RIA for quantitative estimation of hormones.	✓
3	**Values**	
3.1	Ability to work in a team to conduct a specific task.	✓
3.2	Ability to conduct presentation on the glands.	✓

* Program Learning Outcomes

C. Course Content

No	List of Topics	Contact Hours
1	Introduction to Endocrinology.	2
2	Mode of action of a neurotransmitter and that of a hormone	2
3	The action of peptide and steroid hormones.	1
4	The Hypothalamus—Pituitary—Thyroid (HPT) Axis of mammalian and Non-Mammalian Vertebrates	2
5	Comparative Thyroid Physiology	2
6	Renin Angiotensin System RAS	1
7	Homeostasis of hormones	2
Total		12

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge**		
1.1	Students will Distinguish between the mode of action of a neurotransmitter and that of a hormone.	In-class lecturing (using PowerPoint presentations and illustrations) and Laboratory practice on physiological method	Mid- term and final exams
1.2	Students will Compare the action of peptide and steroid hormones.	Laboratory practice on physiological methods	Evaluation of lab activities
…			
2.0	**Skills**		
2.1	Use complex electronic equipment including Powerlabs and Bioamplifiers to record endocrine data, and responses to experimental stimuli.	Laboratory training.	Evaluation of lab reports and results
2.2	Explain endocrine processes accurately and concisely in journal-style format and orally, using relevant scientific terminology and nomenclature.	Use of power point presentation and illustration	Evaluation of Activities and assignments
…			
3.0	**Values**		
3.1	Ability to work in a team to conduct a specific task.	Using power point presentation and illustrations	Assessment of student cooperation in lab session.
3.2	Ability to work independently to handle experimental data.	Close supervision while performing experiments.	Evaluation of the obtained lab results.
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Oral presentation	8,12	20
2	Quizzes	3,6,9,11	10
3	Midterm Exam	10	30
4	Final Exam	15	40
5			
6			
7			
8			

***Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:
• Direct supervision by staff member over lab. Sessions. • Office hours / week

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	1. Vertebrate Endocrinology, 5th Edition by David Norris and James Carr, 2013 2. Endocrinology (6th Edition) by Mac Hadley and Jon Levine, 2006 3. Guyton Physiology 13th Edition, by John E. Hall, 2015 4. Comparative Vertebrate Endocrinology, by Bentley, Cambridge Univ. Press. Cambridge. (2000).
Essential Reference Materials	1. Journal of Endocrinology, Physiology, metabolism and translation 2. Endocrinology 3. Molecular Endocrinology
Electronic Materials	https://www.endocrineweb.com/
Other Learning Materials	

2. Educational and research Facilities and Equipment Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Prepared lecture rooms with audio – visual facilities. • Equipped laboratories.
Technology Resources (AV, data show, Smart Board, software, etc.)	
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods

Evaluation Areas/Issues	Evaluators	Evaluation Methods

Evaluation Areas/Issues (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)
Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	
Reference No.	
Date	