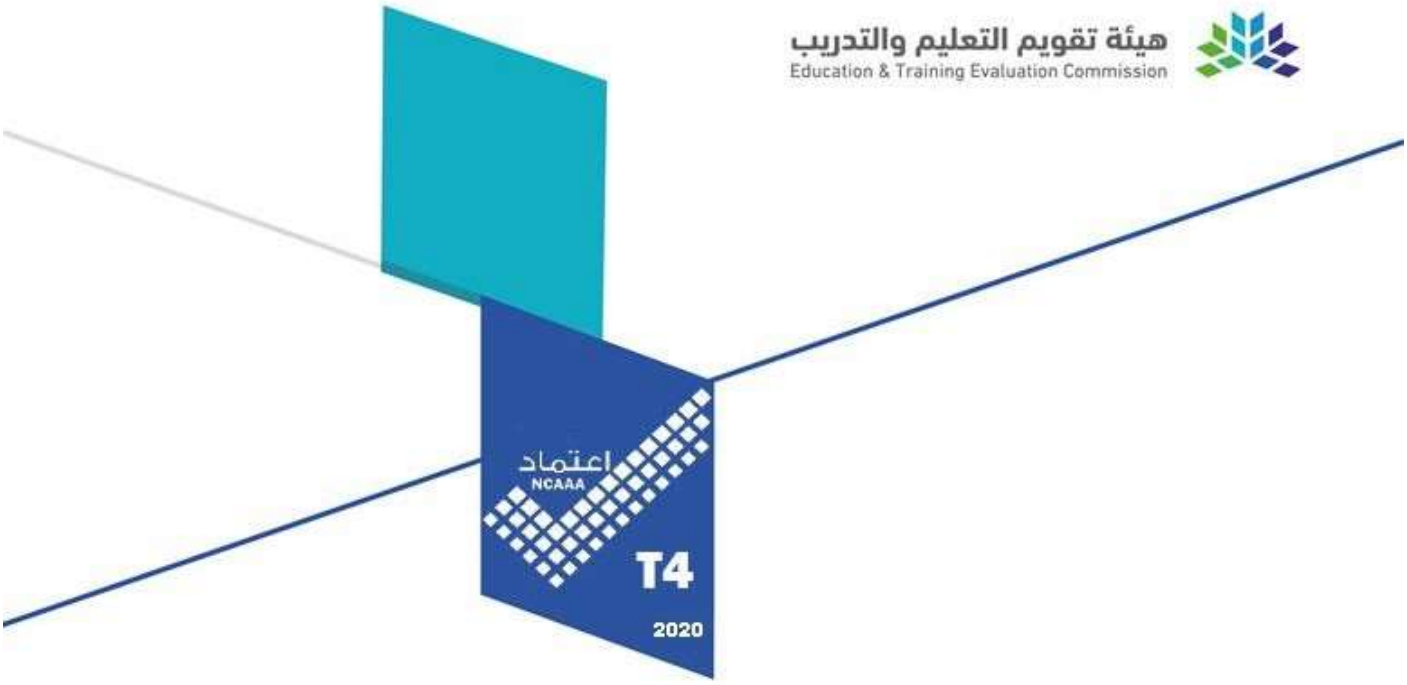
هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission



Course Specifications

Course Title:	**Animal Physiology**
Course Code:	**ZOOL351**
Program:	**Biology**
Department:	**Biology**
College:	**Science**
Institution:	**Jazan University**

Table of Contents

A. Course Identification

1. Credit hours:
2. Course type **a.** University ☐ College ☐ Department ☑ Others ☐ **b.** Required ☑ Elective ☐
3. Level/year at which this course is offered: Level 7 / 3rd year
4. Pre-requisites for this course (if any)**: ZOOL252**
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**	20	76.9%
2	**Blended**	2	7.7%
3	**E-learning**	2	7.7%
4	**Distance learning**	2	7.7%
5	**Other**	--	--

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	**22**
2	**Laboratory/Studio**	**22**
3	**Tutorial**	**-**
4	**Others** (specify) Self-Learning	4
	Total	**48**

B. Course Objectives and Learning Outcomes

1. Course Description

Animal physiology course deals with studying and understanding the functional activities and its mechanisms in the biological body. This course describes some topics in animal physiology such as nervous System (Nerves, Neurons, Transmission of nerve impulse), nervous system (Receptor Types and their Action), Circulation (Systems, Blood Flow and Pressure, Regulation), respiration, locomotion and reproduction.

2. Course Main Objective

This course is designed to provide students with the following concepts to:

1- Understand the principles, basic facts and their significance to animal physiology.

2- Emphasis on studying the physiological aspects of nervous, muscular, digestive, excretory, respiratory, reproductive and circulatory systems.

3- Investigate the cytoplasmic and plasma membrane receptors.

4- Examine the structure, function of the different types of muscles and principles of muscle contraction.

5- Study the mechanisms of digestive enzymes, gas exchange in lungs, the mode of action of hormones, the spermatogenesis /oogenesis and the mechanism of blood clotting.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and understanding**	
1.1	Differentiate (Compare) between different mechanisms, functions, practices and aspects related to Animal Physiology	K2
1.2	Interpret by using your knowledge and understanding some of Animal Physiology	K3
2	**Skills :**	
2.1	Apply the theoretical knowledge and understanding in laboratory experiments and techniques	S1
2.2	Set-up an experiment, investigation and research project for complex issues and problems in animal physiology	S3
2.3	Propose solutions for different complex physiological approaches	S4
3	**Values:**	
3.1	Illustrate awareness of risk assessment and safety observation when dealing with various equipment at various fields	V1

C. Course Content

No	List of Topics	Contact Hours
1	Digestive system: carbohydrates, lipids, proteins, minerals, water, vitamins, enzymes, structure of digestive system, saliva and its secretion, gastric digestion, mechanism of gastric juice and HCl secretion, intestinal digestion, large intestine Absorption.	4
2	Excretory system: Structure, composition of kidney, renal functions, urine formation, homeostasis, control of water reabsorption, regulation of water reabsorption by ADH hormone, mechanism of reabsorption of water and sodium, action of Henle loop, sodium, potassium and calcium regulation, acid base renal regulation and acidic urine formation.	4
3	Nervous system: Nerve cell structure, types of nerve cells, myelinated and unmyelinated nerve fibers, different types of receptors as per cellular location	Self-Learning
4	Respiratory system: Respiration (External), mechanism of respiration, lung capacity, gas exchange, transport of respiratory gases, regulation of respiration process and control of respiration	4
5	Endocrine system: Mechanism of hormone action, cell surface receptors and second messenger, plasma membrane receptors, pituitary gland, thyroid gland, parathyroid hormones, adrenal glands, cortex hormones, medulla hormones, pancreatic hormones, reproductive hormones, menstrual cycle.	4
6	Reproductive system: male and female reproductive systems, their composition, spermatogenesis process, Oogenesis stages, pregnancy and placenta.	3
7	Muscular system: structure of muscle cell, different types of muscles and theories of muscle contraction.	Self-Learning
8	Circulatory system: composition, blood vessels (veins and arteries), blood circulation, blood composition and its functions, blood cells(RBCs), factors affecting RBCs production, blood hemolysis, Anemia, pernicious anemia, microcytic anemia, polyerythremia, jaundice, WBCs (granulocytes, agranulocytes), sites of WBCs production, regulation of leucopoiesis, functions of WBCs, blood platelets, blood plasma, blood coagulation, mechanism of coagulation, intravascular clotting, clot lysis, prevention of coagulation, abnormalities of coagulation, regulation of blood volume, blood transfusion, A,B,O system, Rh factor	3
Total		22

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 and Understanding**		
1.1	Demonstrate structures, features, and processes related animal physiology.	Lectures,	Quizzes, Short Answer Question, MCQs
1.2	Identify the items and their related functions on the diagram.	Lectures, Lab work	Quizzes, Short Answer Question, MCQs
1.3	State hypothesis and theories related to animal physiology.	Lectures, Group Discussion	Assignments
2.0	**Skills**		
2.1	Explain aspects relevant in animal physiology.	Lectures, Lab work	Quizzes, Short Answer Question
2.2	Compare the different structures and features related to animal physiology.	Lectures, Lab work, Group Discussion	Quizzes, Short Answer Question, Lab work assessment
2.3	Interpret experimental data.	Lab work	Short Answer Question, Assignments
3.0	**Values**		
3.1	Illustrate ability to work in groups and peer individual responsibility	Group Discussion, Lab work	Lab work assessment
3.2	Demonstrate risk assessment and safety responsibilities in their fields.	Lab work	Lab work assessment

Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Theoretical written assignment	3	5
2	Theoretical quiz	4	5
3	Theoretical Mid-term exam	6	10
4	Practical Quiz	5	5
5	Practical assignment	6	5
6	Final practical exam	11	20
7	Final Exam	12	50

***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 :

10 Office hours/faculty/week

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	محمد بن صالح الخليفة (2008). الفسيولوجيا العامة. جامعة الملك سعود. النشر العلمي والمطابع • Mohamed Bin-Saleh Al-Khalifa (2008). General physiology. King Saud scientific publications
Essential References Materials	• Guyton and Hall, (2006) Text book of Medical physiology 11th edition • William O. Reece (2015). Functional Anatomy and Physiology of Domestic Animals. Wiley – Blackwell • Bruce M Koeppen and Bruce A Stanton Berne (2017). Berne & Levy Physiology, Elsevier • Guyton and Hall (2020). Textbook of Physiology, international edition, 14 editions, Elsevier
Electronic Materials	Web Sites, etc. https://www.adinstruments.com/lt/animal-physiology
Other Learning Materials	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	1 Lecture room(s) for groups of 50 students. 1 Laboratory for group of 25 students.
Technology Resources (AV, data show, Smart Board, software,etc.)	AV, data show, Smart Board
Other Resources (Specify, e.g. if specific laboratory	Light microscopes, glassware, chemicals, consumables,
equipment is required, list requirements orattach a list)	dissection tools.

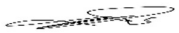
G- Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching	Students, Faculty	Direct (Questionnaire)
Effectiveness of assessment	Peer Reviewer	Direct (Cross Check marking)
Extent of achievement of course learning outcomes	Program Leader	Indirect (QA Committee)
Quality of learning resources	QA. Committee	Indirect (Benchmarking)

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

H- Specification Approval Data

Program Coordinator: Dr. Mohsen Khormi

Signature:  **Date Report Completed 11/9/2022**

Head of Department
Dr. ABDULLAH YEHYA MASHRAQI

Signature:

Council / Committee	
Reference No.	
Date	**Updated/Revised September 10, 2022**