هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

اعتماد NCAAA T4 2020

Course Specifications

Course Title:	**Vertebrates**
Course Code:	**2013204-3**
Program:	**Bachelor in Zoology**
Department:	**Biology Department**
College:	**College of Sciences**
Institution:	**Taif University**

Table of Contents

A. Course Identification

1. Credit hours: 3 hr
2. Course type **a.** University ☐ College ☐ Department ☑ Others ☐ **b.** Required ☑ Elective ☐
3. Level/year at which this course is offered: 9th level / 3rd year
4. Pre-requisites for this course (if any)**:** Invertebrates 2012204-3
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**	6 hr/Week	100%
2	**Blended**	-	-
3	**E-learning**	-	-
4	**Correspondence**	-	-
5	**Other**	-	-

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	30
2	**Laboratory/Studio**	30
3	**Tutorial**	--
4	**Others** (specify)	--
	Total	60

B. Course Objectives and Learning Outcomes

1. Course Description:

This course deals with studying general characteristics, classification, external features and internal systems of chordates as well as relations between vertebrates & invertebrates.

2. Course Main Objective:

By the end of this course, the student acquires an appropriate background about the basic facts, principles and concepts related to vertebrate animals and the universalities of vertebrate development.

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge and Understanding:**	
1.1	Recognize general characters, anatomy and classification of Chordates.	K1
1.2	Define different vertebrate animals based on their classification criteria.	K2
2	**Skills:**	

CLOs		Aligned PLOs
2.1	Develop comparisons among different chordate species based on their characters and classification.	S1
3	**Values:**	
3.1	Demonstrate commitment to professional and academic values.	V1
3.2	Manage tasks and activities related to the discipline effectively and efficiently.	V2

C. Course Content

No	List of Topics	Contact Hours
1	**Protochordata** Introduction, General characters of Phylum Chordata, Classification of Phylum Chordata. Phylum Hemichordata (Invertebrate-vertebrate): *Balanoglossus*. Class: Urochordata, *Ascidia.* Phenomenon of Retrogressive metamorphosis.	3L+3P
2	**Class: Cephalochordata**, General characters, *Amphioxus lanceolatus* (external features, different systems of the body). 1- Amphioxus: Larva (specimen), adult (specimen). T.S. of pharyngeal, trunk and tail regions.	3L+3P
3	**Vertebrata:** General characters, Agnatha, Petromyzon: External features, different systems of the body). 1- Petromyzon: *Ammocoetes* larva (photo and specimen), adult specimen. *Petromyzon*: T.S. of pharyngeal, trunk and caudal regions.	3L+3P
4	**Class: Chondrichthyes** General characters, Dogfish: external features, skin, different systems of the body). Dogfish: External features (male and female), placoid scales, dissected dogfish (photo). Dogfish: T.S. of pharyngeal, trunk and tail regions.	3L+3P
5	**Class: Osteichthyes** General characters, Bolti: External features, skin, different systems of the body). Tilapia: External feature (male and female), dissection. Cycloid and ctenoid scales, T.S of pharyngeal, trunk and tail regions of Bolti.	3L+3P
6	**Tetrapoda**: General characters, Affinities between fishes and Amphibia, pentadactyle limb skeleton and modification in Bufo, sense organs of Amphibia. General characters of Amniota Amphibia : 24 hrs *Rana* Larva- V.S. of skin of *Bufo*	3L+3P
7	**Class: Reptilia** General characters, external features of lizards (Skink), different systems of the body. Reptilia: External feature of *Scincus*. V.S. of skin.	3L+3P
8	**Class: Aves** General characters, classification, adaptive characters for aerial life, different systems of the body of pigeon. -Skeleton of girdles and limbs.	3L+3P

9	**Class: Mammals** General characters, classification external features, different systems of the body of rabbit. Skeleton of girdles and limbs	3L+3P
10	**General Revision**	3L+3P
Total		30L+30P

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	Recognize general characters, anatomy and classification of Chordates.	Lectures Open discussion	Paper-based exams
1.2	Define different vertebrate animals based on their classification criteria.	Lectures Concept maps	Paper-based exams
2.0	**Skills:**		
2.1	Develop comparisons among different chordate species based on their characters and classification.	Lectures Open discussion	Paper-based exams Practical exam
3.0	**Values:**		
3.1	Demonstrate commitment to professional and academic values.	Small group activities Interactive learning	Assignments Practical reports
3.2	Manage tasks and activities related to the discipline effectively and efficiently.	Small group activities	Assignments

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Activities	Continuous	10
2	Midterm Exam	5th	20
3	Periodic Exam	7th	10
4	Practical reports	Continuous	15
5	Final Practical Exam	11th	5
6	Final Exam	12th	40

***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:

6 hours per week (as defined in the teaching schedule of the faculty member) for academic advice and consultations.

Teaching staff is also available using Blackboard web site and Taif University "Edugate" System.

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	- Kisia, S.M. (2011). Vertebrates: Structures and Functions. 1st Edition. CRC Press. - Mona F. Abdel-Rahman (2007). Vertebrates, Academic Library, Cairo, Egypt (In Arabic).
Essential References Materials	- Tyler, M.S. (2000). Developmental Biology: A Guide for Experimental Study. 2nd Edition. Sinauer Assoc., Inc., Sunderland, MA. - Mona F. Abdel-Rahman (1992). Comparative Anatomy of Vertebrates, Academic Library, Cairo, Egypt. (In Arabic).
Electronic Materials	Blackboard website Website of Saudi digital Library
Other Learning Materials	Computer-based programs and professional software

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	- Classroom (capacity not more than 40 students) - Zoology Lab (capacity not more than 20 students)
Technology Resources (AV, data show, Smart Board, software, etc.)	- Data show
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	- Slide projector. - Permanent slides. - Preserved specimens

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching and assessment	Students	Indirect
Quality of learning resources	Peer Reviewer Students	Direct Indirect
Extent of achieving the course learning outcomes	Peer Reviewer Students	Direct Indirect

Evaluation areas (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	**Biology Department**
Reference No.	**Committee number 14 - Academic Year 1442-1443H**
Date	**22\5\2022G – 21\10\1443H**