هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

2023
TP-153

Course Specification
(Bachelor)

Course Title:	*Vertebrates*
Course Code:	*BIO1207*
Program:	*Bachelor of Science in Biology*
Department:	*Department of Biology*
College:	*Faculty of Science*
Institution:	*University of Tabuk*
Version:	***Course Specification Version Number***
Last Revision Date:	*September 2023*

Table of Contents

A. General information about the course:

1. Course Identification

1. Credit hours:					
3 Credit (2 theoretical + 1 practical) hours					
2. Course type					
A.	☐University	☐ College	☒ Department	☐Track	☐Others
B.	☒ Required		☐Elective		
3. Level/year at which this course is offered: (4th Level / 2nd year)					
4. Course general Description:					
This course includes an introduction to the concept, general characteristics and classification of phylum Chordata with emphasis on subphylum vertebrata with some diverse examples; Cephalochordate animals, Urochordata (*Ascidia*), subphylum vertebrata (Agnatha, *Petromyzon*), superclass Gnathostomata (cartilage and dog fishes), bony fishes (*Tilapia*), the adaptability and internal anatomy of Pigeon, Reptiles, Birds, Mammals (Rabbits).					
5. Pre-requirements for this course (if any)**:**					
Invertebrates (BIO1204).					
6. Co-requirements for this course (if any)**:**					
None					
7. Course Main Objective(s):					
By the end of this course, the students should be able to: - Demonstrate the historical background for the development of a private anatomy of vertebrates. - Explain the basic elements of life of the animal, and mechanisms of the diversity of animal life. - Monitor the evolution of vertebrates through selective vertebrates. Compare and contrast the development, life cycles, anatomical and physiological characteristics of major chordate groups. - Evaluate the relationships of animals to each other and their environments. - Describe and identify the main characteristics and classification of samples down to representatives of each community. - Apply the processes of scientific research and experimental design to the diversity of animals. - Distinguish scientific explanations that show general characteristics for each group of Chordata.					

- Prepare and examine preserved dissected animals to identify major body organs.

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	2	50%
2	E-learning		
3	Hybrid • Traditional classroom • E-learning		
4	Distance learning		
5	**Others (Lab work)**	2	50%

3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	**Lectures**	30
2.	**Laboratory/Studio**	30
3.	**Field**	
4.	**Tutorial**	
5.	**Others (specify)**	
Total		**60**

B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	**Knowledge and understanding**			
1.1	Describe the external and internal structures of chordate animals.	K2	-Lectures. -Class discussion. -Group discussion. -Case studies.	-Quizzes -Midterm examination. -Final examination.

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
				-Class discussion and participation. - Homework (Problem-solving).
1.2	Define animals systematically in the Animal Kingdom	K1	-Lectures. -Class discussion. -Group discussion. -Homework assignments. -Case studies.	-Quizzes -Midterm examination. -Final examination. -Class discussion and participation. -Homework assignments.
2.0	**Skills**			
2.1	Apply the dissection and drawing of some animals.	S2	-Lectures. - Lab work. -Class discussion. -Group discussion. -Brainstorming.	-Quizzes -reports -Final examination. -Class discussion and participation. - Homework (Problem-solving).
2.2	Evaluate the general characters of vertebrates.	S1	-Lectures. - Lab work. -Class discussion. -Group discussion. -Brainstorming.	-Quizzes -reports -Final examination.

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
				-Class discussion and participation. - Homework (Problem-solving).
3.0	**Values, autonomy, and responsibility**			
3.1	Show cooperation in a team to record notes on anatomical characteristics.	V1	-Lab demonstration -Class discussion. -Group discussion	-Class discussion and participation. -Homework (Problem-solving).

C. Course Content

No	List of Topics	Contact Hours
1.	Review of the invertebrates (previous prerequisite)	2
2.	Introduction to Chordata, (General characters and Classification)	2
3.	Cephalochordate animals (General features - Amphioxus)	2
4.	Urochordata (General characters – Ascidia)	2
5	Subphylum vertebrata (General features, Agnatha, Petromyzon)	2
6.	Superclass Gnathostomata (General characters, cartilaginous fishes, the dog fish)	2
7.	Bony fishes (General characteristics, examples, Tilapia)	2
8.	The pigeon (external features, adaptability and internal anatomy)	2
9.	Amphibians (General features, frog)	2
10.	Amphibians (other examples of amphibians).	2
11.	Reptiles (General characters, the lizard, other examples of Reptilia)	2
12.	Birds (General features and structure)	2
13.	Mammals (General characters and Classification) 1	2
14.	Mammals (General characters and Classification) 2	2
15.	Studying an example of mammals (rabbit)	2
Total		**30**

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Class Participation	During whole teaching period	5
2.	Homework (Problem-solving)	3 to 13	5
3.	Short Exams (Quizzes)	During whole teaching period	5
4.	Midterm Theoretical Examination	8-9	20
4.	Reports (For Practical)	During whole teaching period	10
5.	Final Practical Examination	15	15
6.	Final Theoretical Examination	17	40

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.).

E. Learning Resources and Facilities

1. References and Learning Resources

Essential References	- E.L.Jordan & Dr. P.S. Verma (2014): Chordate Zoology. S. Chand & Company Pvt. Ltd.
Supportive References	- Kardong, K.V. (2001). Vertebrates-Comparative Anatomy, Function, Evolution, 3rd ed., Dubuque, IA: W.C. Brown. - Kotpal, R. L. (2000). Modern textbook of Zoology, Vertebrates. Rastogi Publishing, India).
Electronic Materials	None
Other Learning Materials	Microsoft office package.

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	- A sufficient number of classrooms, well equipped

Items	Resources
	- practical laboratories are available to accommodate students with light microscopes.
Technology equipment (projector, smart board, software)	- Data show. - Wireless connection in the building for students and faculties.
Other equipment (depending on the nature of the specialty)	- Anatomy tools. - Microscopes. - Animal samples. - Models of vertebrate animals. - Glass slides of animal chordates samples. - Projectors. - Transparencies.

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	- Students. - Faculty members.	Indirect & direct: - Questionnaires. - Meetings.
Effectiveness of Students assessment	- Quality and development committee. - Department chair.	- Course report. - Program annual report.
Quality of learning resources	- Plan and program committee. - Students. - Staff members.	Indirect & direct: - Questionnaires. - Meetings. - Reports.
The extent to which CLOs have been achieved	- Quality and development committee. - Peer Reviewer. - Program leaders.	Indirect & direct: - Questionnaires. - Meetings. - Reports.
Other		

Assessors (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	PROGRAMS AND STUDY PLANS COMMITTEE
REFERENCE NO.	
DATE	SEPTEMBER 2023