



Course Specifications

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|----------------------|---------------------------------------|
| Course Title: | Vertebrate Comparative Anatomy |
| Course Code: | 2014206-3 |
| Program: | Bachelor in Zoology |
| Department: | Biology Department |
| College: | College of Sciences |
| Institution: | Taif University |

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A. Course Identification

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| 1. Credit hours: 3hr |
| 2. Course type a. University <input type="checkbox"/> College <input type="checkbox"/> Department <input checked="" type="checkbox"/> Others <input type="checkbox"/> b. Required <input checked="" type="checkbox"/> Elective <input type="checkbox"/> |
| 3. Level/year at which this course is offered: 12 th level / 4 th year |
| 4. Pre-requisites for this course (if any): Vertebrates / 2013204-3 |
| 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

| |
|---|
| <p>1. Course Description: This course deals with studying introduction and some terms of vertebrates, principals differentiations between the different Classes, classification of vertebrates starting from Protochordata to Mammalia as well as general features, taxonomy and compare between different systems of each classes.</p> |
| <p>2. Course Main Objective: Providing scientific knowledge about vertebrates and their classification, identification of different vertebrate classes, morphological and formation vertebrate animal systems as well as compare between them to differentiate between vertebrate animals.</p> |

3. Course Learning Outcomes

| | CLOs | Aligned PLOs |
|---|-------------------------------------|--------------|
| 1 | Knowledge and Understanding: | |

| CLOs | | Aligned PLOs |
|----------|---|--------------|
| 1.1 | Describe types and structure of different vertebrate organs and systems. | K2 |
| 1.2 | Identify the basic concepts and routine procedures used to study different vertebrate organs and systems. | K3 |
| 2 | Skills: | |
| 2.1 | Develop skills for integration of biological knowledge related to comparative anatomy. | S1 |
| 3 | Values: | |
| 3.1 | Demonstrate comment to professional and leadership values. | V1 |
| 3.2 | Assess linguistic performance to discuss advanced scientific topics. | V3 |

C. Course Content

| No | List of Topics | Contact Hours |
|--------------|---|---------------|
| 1 | Chapter 1: Introduction Introduction and some terms of animal kingdom especially vertebrates - Principals differentiations between the invertebrates and vertebrates. Classification of vertebrates | 2L+3P |
| 2 | Chapter 2: Integumentary system Structure of the skin – colour of the skin – glands of the skin – structure and compare skin in (Gnathostomata – Cyclostomata – Fishes- Amphibia- Reptilia- Birds and Mammalia) | 10L+15P |
| 3 | Chapter 3: Skeletal system Exoskeleton . The skin and its derivatives Endoskeleton The axial skeleton (types of Skull – Vertebral column- ribs – modes of jaw suspension). Appendicular skeleton (It contains the bones of the extremities (front and back) and their respective belts (thoracic belt and belt Pelvic). | 6L+6P |
| 4 | Chapter 4: Nervous system Central nervous system: Brain and spinal cord. Terminal nervous system: Cerebral nerves and spinal nerves. Sense organs: Eye – ear- olfactory senses- taste). | 6L+3P |
| 5 | Chapter 5: Circulatory system Blood vascular system Arterial system and venous system- Heart Lymphatic system | 6L+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: | | |

| Code | Course Learning Outcomes | Teaching Strategies | Assessment Methods |
|------|---|---|---|
| 1.1 | Describe types and structure of different vertebrate organs and systems. | Lectures Concept maps | Paper-based exams |
| 1.2 | Identify the basic concepts and routine procedures used to study different vertebrate organs and systems. | Lectures Cooperative learning | Paper-based exams |
| 2.0 | Skills: | | |
| 2.1 | Develop skills for integration of biological knowledge related to comparative anatomy. | Open discussion Brain storming | Practical reports Final practical exam |
| 3.0 | Values: | | |
| 3.1 | Demonstrate comment to professional and leadership values. | Small group activities Open discussion | Practical reports Assignments |
| 3.2 | Assess linguistic performance to discuss advanced scientific topics. | Cooperative learning Brain storming | Practical reports Assignments |

2. Assessment Tasks for Students

| # | Assessment task* | Week Due | Percentage of Total Assessment Score |
|---|---|------------------|--------------------------------------|
| 1 | Assignments and activities: 1- Written Assignment 2- Power-point presentation | Variable | 10 |
| 2 | Midterm Exam | 5 th | 20 |
| 3 | Periodic Exam | 7 th | 10 |
| 4 | Practical Reports | Continuous | 15 |
| 5 | Final Practical Exam | 11 th | 5 |
| 6 | Final Exam | 12 th | 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 | Kenneth Kardony (2018). Vertebrates: Comparative anatomy, Functions, evolution. 6 th Edition. Robert Wiedersheim (2018). Comparative anatomy of vertebrates. |
| Essential References Materials | Vertebrate Zoology. From Wikibooks, open books for an open world |

| | |
|---------------------------------|--|
| 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 no. 14- Academic Year 1442-1443H |
| Date | 22/5/2022—23/10/1443 |

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