هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

اعتماد NCAAA T4 2020

Course Specifications

Course Title:	**Invertebrates**
Course Code:	**2012204-3**
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: 7th level / 3rd year
4. Pre-requisites for this course (if any)**:** General Zoology/ 2012104-3
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 introduction and some terms of animal kingdom especially invertebrates, principals differentiations between the invertebrates and vertebrates, classification of invertebrates starting from Protozoa to Echinodermata as well as general features, taxonomy and examples of each phylum.

2. Course Main Objective:

Providing scientific knowledge about invertebrates and their classification, identification of different invertebrate phyla, morphological and life cycles of invertebrate animals as well as the methods used to differentiate between invertebrate animals.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding:**	
1.1	Describe the structure, life cycle and environments of invertebrate animals.	K1

CLOs		Aligned PLOs
1.2	Define the appropriate methods of classification of invertebrate animals.	K2
2	**Skills:**	
2.1	Compare between invertebrate animals in different classes.	S1
2.2	Utilize basic concepts of invertebrate studies in economic and environmental approaches.	S3
3	**Values:**	
3.1	Demonstrate commitment to professional and leadership values.	V1

C. Course Content

No	List of Topics	Contact Hours
1	**Chapter 1: Introduction** Introduction and some terms of animal kingdom especially invertebrates - Principals differentiations between the invertebrates and vertebrates. Classification of invertebrates	3L+3P
2	**Chapter 2: Protozoa** Classification of invertebrates - Phylum protozoa (features- taxonomy- examples)- Class Sarcodina 1- Ameoba (general features – morphological structural- activities- life cycle) 2- *Entameoba histolytica* (general features – morphological structural- activities - life cycle)	3L+3P
3	**Chapter 2: Protozoa** Class Mastigophora 1- Trypanosoma (general features – morphological structural- activities - life cycle) 2- Euglena (general features – morphological structural- activities - life cycle)	3L+3P
4	**Chapter 2: Protozoa** Class Ciliophora Paramecium (general features – morphological structural- activities - life cycle) Class Sporozoa Plasmodium (general features – morphological structural- activities - life cycle)	3L+3P
5	**Chapter 3: Porifera** Phylum Porifera (Sponges) : Taxonomy- general features Ascon type: general features – morphological structural- activities- life cycle **Chapter 4: Coelenterata** Phylum Coelenterata: Taxonomy- general features Ex. Hydra: general features – morphological structural- activities- life cycle	3L+3P
6	**Chapter 5: Acoelomata** Phylum Platyhelminthes: Taxonomy- general features Ex. Schistosoma: general features – morphological structural- activities - life cycle **Chapter 6: Pseudocoelomata** Phylum Nematoda: Taxonomy- general features	3L+3P

	Ex. Ascaris: general features – morphological structural- activities- life cycle	
7	**Chapter 7: Coelomata** Phylum Annelida: Taxonomy- general features Ex. Allolobophora: general features – morphological structural- activities- life cycle Phylum Arthropoda: Taxonomy- general features Ex.: general features – morphological structural- activities- life cycle	3L+3P
8	**Chapter 7: Coelomata** Phylum Mollusca Taxonomy- general features Ex.: general features – morphological structural- Activates- life cycle	3L+3P
9	**Chapter 7: Coelomata** Phylum Echinodermata Taxonomy- general features Ex.: general features – morphological structural- activities- life cycle	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	Describe the structure, life cycle and environments of invertebrate animals.	Lectures Interactive learning	Paper-based exams
1.2	Define the appropriate methods of classification of invertebrate animals.	Lectures Concept maps	Paper-based exams
2.0	**Skills:**		
2.1	Compare between invertebrate animals in different classes.	Lectures Open discussion	Final practical exam Practical reports
2.2	Utilize basic concepts of invertebrate studies in economic and environmental approaches.	Brain storming Small group activities	Final practical exam Practical reports
3.0	**Values:**		
3.1	Demonstrate commitment to professional and leadership values.	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	Janet Moore (2006). An Introduction to the Invertebrates, 2nd edition, Cambridge University Press.
Essential References Materials	Richard C. Brusca (2003). Invertebrates, 2nd Edition., Sinauer Associates Inc.
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 1442-1443II**
Date	**22\5\2022G – 21\10\1443H**

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