Course Specification
(Bachelor)

Course Title:	**Animal Taxonomy**
Course Code:	**BIO 1111**
Program :	**Bachelor of Science in Biology**
Department:	**Biology**
College:	**Science**
Institution:	**Al-Imam Mohammad Ibn Saud Islamic University**
Version	**02**
Last Revision Date:	**2023**

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A. General information about the course:

1. Course Identification

1. Credit hours: (.....)					
2. Course type					
A.	☐University	☐College	☒ Department	☐Track	Others
B.	☐Required		☐Elective		
3. Level/year at which this course is offered: (Level 3 / First Year.)					
4. Course general Description: This course has titles which will introduce the basic concepts for all courses of biology in all next educational levels. So, this course shows definition, basic concept and importance of systematics and taxonomy concepts of different conventional and newer aspects in biosystematics, classification of animal kingdom-major and minor phyla and illustrates the evolutionary relationships between different organisms.					
5. Pre-requirements for this course (if any)**: BIO - 1101**					
6. Co-requisites for this course (if any)**: None**					
7. Course Main Objective(s):					
7. Course Main Objective(s): By the end of this course, the student must be able: To identify basic concepts and principles of taxonomy of Zoology. • To know that taxonomy of zoology provides a systematic investigation from the major Protista and animal groups. • To discuss Definition, basic concept and importance of Systematics and Taxonomy Concepts. • To illustrate the evolutionary relationships between different organisms. • To know Classification of Animal Kingdom-Major and Minor Phyla. • To identify general characters and life cycle of each animal's group. • To know the importance of this systematics.					

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	**6**	**100%**
2	E-learning		
3	Hybrid • Traditional classroom • E-learning		
4	Distance learning		

3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	**Lectures**	**4**
2.	**Laboratory/Studio**	**2**
3.	**Field**	**0**
4.	**Tutorial**	**0**
5.	**Others (specify)**	**0**
Total		**6**

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

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
1.0	**Knowledge and understanding**			
1.1	**To define where each animal group fits evolutionarily in the animal kingdom**	1.1	Self-Study including work on problem sheets.	Performance must include class examinations, frequent homework assignments.
1.2	**To outline how changes in animal structure (morphology)to perform his function.**	**1.2**	Self-Study including work on problem sheets.	Performance must include class examinations, frequent

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
				homework assignments.
2.0	Skills			
2.1	To evaluate the general magnitude of animal evolution over time.	2.1	Self-study is an important method for students' learning.	Questions in Lectures.
2.2	To develop a historical perspective of animals.	2.1	Introduce some concepts by examples from real-life problems (i.e. laboratory).	Short Quizzes and Exams.
2.3	To illustrate how different animal structures and functions are complimentary relationships	2.1-2.2	Encourage Students to communicate their biology thinking to ask and answer question when they arise. Motivate students to work cooperatively with their class mates to develop individual skill	Participation through class work and Homework. • Work portfolio
3.0	Values, autonomy, and responsibility			
3.1	To show ability to communicate effectively with class mates and teaching staff.	2.2	Encourage the students to solve the exercises and problems on white board.	Laboratory reports writing
3.2	To operate laboratory instruments and computers.	3.3	Virtual labs.	Laboratory performance and reports.
3.3	To Perform biological experiments and handle various slides during laboratory classes.	3.1-3.3	Demonstrations.	Laboratory performance and reports.

C. Course Content

No	List of Topics	Contact Hours
1	Definition, basic concept and importance of Systematics and Taxonomy Concepts of different conventional and newer aspects in biosystematics • Chemotaxonomy • Cytotaxonomy • Molecular taxonomy.	4
2	Taxonomic procedures- taxonomic collections, preservation, method of identification, taxonomic keys- different types of keys. • Concepts of taxonomic terms. • Importance of classification.	4
3	Process of typification and different Zoological types • International Code of Zoological Nomenclature (ICZN): Basic Concepts • Binominal nomenclature and Trinomial nomenclature.	4
4	Classification of Animal Kingdom-Major and Minor Phyla • PROTOZOA: general characters and classification up to orders with examples. Nutrition, locomotion and reproduction in Protozoa. PORIFERA: general characters and classification up to orders with examples canal system of in porifera.	4
5	Coelenterata: general characters and classification up to orders with examples. polymorphism in syphonophora, coral and coral reef. formation. • Platyhelminthes: general characters and classification up to orders with examples, Morphology and Life History of Fasciola.	4
6	Aschelminthes: general characters and classification up to orders with examples. morphology and life history of ascaris. life cycles and pathogenecity of parasites of man (plasmodium, taenia, ancylostoma,), parasitic adaptation in helminthes.	4
7	Annelida: general characters and classification up to orders with examples. coelom, coelomoduct and nephridia of annelida, structure and significance of Trochophore larva • Arthropoda: general characters and classification up to orders with examples. appendages and digestive system of prawn. significance of peripatus in evolution.	4
8	Mollusca: general character and classification up to orders with examples. digestive and nervous system of Pila, torsion in gastropoda • Echinodermata: general characters and classification up to orders with examples, water-vascular system in echinodermata, larvae of Echinodermata.	4
9	General characters, outline of classification and plan of body organization in chordates • Protochrdata: general characters, classification of protochrdata up to suborders with examples. • HEMICHORDATA: morphology and affinities of Balanoglossus. • UROCHORDATA: structure and retrogressive metamorphosis in Urochordata.	4

10	CEPHALOCHORDATA: structure and affinities of Amphioxus. • AGNATHOSTOMATA: distinctive characters and classification, Ammocoete larva - its importance in evolution, differences between Lamprey and Hagfish.	4
11	circulatory system, nervous system and sense organ of Scoliodon. accessory respiratory organ and swim bladder in fish, migration of fishes.	4
12	AMPHIBIA: general characters, classification up to orders with examples, respiration in amphibia, parental care in amphibian.	4
13	REPTILIA: general characters classification up to order with examples. anatomical peculiarities and affinities of Sphenodon, biting mechanism of poisonous snake.	4
14	AVES: Distinctive characters and classification up to orders with examples. Air sacs-significance and importance, Flight and perching mechanism in birds Migration of bird.	4
15	MAMMALIA: distinctive characters and classification up to orders with examples. General organization and affinities of Monotremata and Marsupialia. Receptor and sense organs in Mammals. Dentition in Mammals.	4
	Total	**60**

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Midterm 1	Around 6th - 7th week	15%
2.	Midterm 2	Around 11th - 12th week	15%
3.	Quizzes, Attendance, Participation, Home works.	All the semester	10 %
4	Lab reports.	All the semester	5%
5	Lab reports.	All the semester	5%
6	Lab Exam.	Around 15th week	15 %
7	Total		100%

*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	**Hickman C. P. Jr. et al., Integrated Principles of Zoology. 16th ed. (2013). ISBN-13: 9780073524214. • Paul Waldau. Animal Studies: An Introduction 1st Edition (2013). ISBN-13: 9780199827039. • Barnes, R.D. Invertebrate Zoology (1982) VI Edition. Holt Saunders International Edition. • Barnes, R.S.K., Calow, P., Olive, P.J.W., Golding, D.W. & J.I., Spicer (2002) The Invertebrates: A New Synthesis. III Edition. Blackwell Science. • Barrington, E.J.W. (1979) Invertebrate Structure and Functions. II Edition. E.L.B.S. and Nelson.**
Supportive References	**Campbell, N.A. and Reece, J. B. (2008) Biology 8th edition, Pearson Benjamin Cummings, San Francisco. • Griffiths, A.J.F et al (2008) Introduction to Genetic Analysis, 9th edition, W.H. Freeman & Co. NY • Raven, P.H et al (2006) Biology 7th edition Tata mcgrawhill Publications, New Delhi**
Electronic Materials	**http://www.occc.edu/biologylabs/documents/Zoology/General_Zoology.htm • http://www.smccd.net/accounts/bucher/zoo.html •http://fr.slideshare.net/bayenMD/introduction-to-general-zoology**
Other Learning Materials	**Presentations for all lectures prepared by Dr.Ashraf Qurtam**

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	**Each classroom is equipped with PC and retro projector with a maximum of 30 students**
Technology equipment (projector, smart board, software)	**The computers are equipped with different software's.**
Other equipment (depending on the nature of the specialty)	**Specific laboratory equipment for this course including posters, models of different experimental animals, dissection instruments, light microscopes, dissection microscopes, centrifuges, incubators, ovens and other glass wares.**

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Course coordinator	At the end of each semester the course coordinator completes a report, including a summary of student questionnaire responses appraising progress and identifying changes that need to be made if necessary
Effectiveness of Students assessment	Students	At the end of the course each student will complete an evaluation form which it will be used by the faculty to evaluate the course feedback and the instructor.
Quality of learning resources	Peer Reviewer	Reviewing the course reports submitted at the end of each semester.
The extent to which CLOs have been achieved	Quality committees	Check a sample of marking by independent faculty member.
Other		

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

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	
REFERENCE NO.	
DATE	