

New/Revised Curriculum (2021)

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For

Bachelor of Science Degree Programme

Course structure for subject of Zoology

Department of Zoology and Environmental Management

March 2021

Programme Structure:

Year of Study	Semester	Course Code	Course Name	Credit Value	Status: Compulsory (Core) /Optional
1	1	BIOL 11552	Evolutionary Biology and Biogeography	2	C
	2	ZOOL 12703	Animal Diversity	3	C
		ZOOL 12711	Animal Diversity Laboratory	1	C
		ZOOL 12722	Animal Behaviour	2	C
2	3	ZOOL 21702	Animal Histology and Physiology	2	C
		ZOOL 21711	Animal Histology and Physiology Laboratory	1	C
		ZOOL 21722	Developmental Biology and Human Genetics	2	C
	4	ZOOL 22732	Terrestrial Ecology	2	C
		ZOOL 22742	Aquatic Ecology	2	C
		ZOOL 22752	Terrestrial and Aquatic Ecology Laboratory	2	C
3	5	ZOOL 31703	Fish Biology, Population Dynamics and Fisheries	3	O
		ZOOL 31713	Entomology and Pest Management	3	O
		ZOOL 31722	Environmental Impact Assessment	2	O
		PRPL 31992	Professional Placement	2	O
	6	ZOOL 32733	Aquaculture	3	O
		ZOOL 32742	Parasitology	2	O
		ZOOL 32752	Conservation Biology	2	O
		ZOOL 32762	Wildlife Management	2	O

Programme Content

Year of Study	2		
Semester	3		
Course Code:	ZOO L 21702		
Course Name:	Animal Histology and Physiology		
Credit Value:	2		
Status: Compulsory (Core)/Optional	Compulsory		
Pre-requisites	ZOO L 12703		
Co-requisites	ZOO L 21711		
Hourly Breakdown	Theory hours	Practical hours	Hours of Independent Learning
	30		70
<p>Course Aims/Intended Learning Outcomes: <i>(ILOs should be written with action verbs. E.g. At the completion of this course student will be able to list / explain / describe / discuss etc)</i></p> <p>Intended Learning Outcomes: After the completion of this course unit, the student will be able to:</p> <ol style="list-style-type: none"> 1. describe histology of mammalian organ systems with special reference to humans, 2. explain the functional significance of histological architecture of organs, 3. discuss the physiological processes with special reference to humans, and 4. appreciate the interdependency and interplay of organ systems to maintain the optimum functioning of the individual. 			
<p>Course Content:</p> <p>Animal Histology: Overview of histology, Histology of mammalian organ systems: integumentary, digestive, respiratory, cardiovascular, skeletal, muscular, lymphatic, urinary, nervous and reproductive system.</p> <p>Animal Physiology: Homeostasis: maintaining and restoring homeostasis in animals. Respiratory gas exchange: respiratory pigments, regulation of respiration. Digestion and nutrition: regulation of gastrointestinal tract functions. Generation, conduction and transmission of electrical signals, reflex arcs. Physiology and pathways of olfaction, gustation, vision, hearing, equilibrium and somatic sensation. Muscle contraction: contraction and relaxation of skeletal muscle, muscle metabolism, control of muscle tension and body movements, smooth and cardiac muscle physiology. Cardiovascular physiology: regulation of cardiac output, capillary exchange mechanism, hemodynamics, regulation of cardiovascular system. Immunity: innate immunity with special emphasis on interferons, complement and inflammatory response, T-cell mediated and B-cell mediated immunity, self-tolerance and defective immune system. Renal physiology: glomerular filtration, tubular reabsorption and secretion, role of counter current multiplier systems in formation of dilute and concentrated urine, regulation of renal function. Hormonal regulation: mechanism of hormone action, hormonal regulation of selected body processes including reproduction.</p>			

Teaching /Learning Methods: A combination of lectures, group activities, discussions and online resources			
Assessment Strategy:			
Continuous Assessment 30%		Final Assessment 70 %	
Details: quizzes, mid-term, other (specify) Quizzes 10 marks, Assignment 20 marks	Theory 70 marks	Practical	Other (specify)
Recommended Reading: (recommended to use recently published materials) 1. Randall, D., W. Burggre & K. French (2001). Eckert’s Animal Physiology, 5th Edition, W.H. Freeman & Co. New York. 2. Tortora, G.J. & B. H. Derrickson (2016). Principles of Anatomy and Physiology, 15th edition, John Wiley & Sons, New Jersey. 3. Pawlina, W. & M. H. Ross (2020). Histology: A Text and Atlas, 8 th Edition, Wolters and Kluwer Health, Philadelphia. 4. Zao P., T. Stabler., L.A. Smith, A. Lokuta & E. Griff (2020). PhysioEx 10.0: Laboratory Simulations in Physiology, 1st Edition, Pearson Education, London			