



UNIVERSITI TEKNOLOGI MARA

BDY412: ZOOLOGY

Course Name (English)	ZOOLOGY APPROVED
Course Code	BDY412
MQF Credit	3
Course Description	Zoology is a major division of biology and broad. This course covers structure, function and diversity of animals. It includes the study of biological concepts and processes such as evolution, cellular metabolism, reproduction, heredity, development, and homeostasis. The laboratory component requires performing a variety of experiments with animals, in both lab and non-lab environments and includes the study of the taxonomy and systematics on animal phyla and the anatomy and morphology of representative taxa. This course may include breeding, raising animals in controlled conditions and testing the effects of different types of drugs on the different types of species.
Transferable Skills	Skills and how they are developed and assessed, Project and practical experience and Internship. 1. Develop a familiarity with histological structures of tissues and organs representative of various animal phyla and evolutionary strategies. 2. Be able to collect, properly preserve, identify and display representative animal species (optional) and appreciate the biological value of such activities.
Teaching Methodologies	Lectures, Lab Work, Discussion
CLO	CLO1 Define what zoology is and able to understand basic knowledge, function and importance of the nature of science and processes of life. CLO2 Apply the basic knowledge in life and appreciate the importance of the diversity and classification of life, species concepts, and advantage of ecology. CLO3 Describe the function and importance of cell structure and function including molecular genetics. CLO4 Classify the importance of reproduction (mitosis & meiosis), classical genetics and population genetics in population variation.
Pre-Requisite Courses	No course recommendations
Topics	
1. Chapter 1: Classification of Non Chordates up to classes 1.1) 1.1 Classification of Non Chordates up to classes (introduction) 1.2) 1.2 Porifera 1.3) 1.3 Coelenterata, Cnidaria, Ctenophora 1.4) 1.4 Helminthes, platyhelminths (trematode, cestode) 1.5) 1.5 Annelida 1.6) 1.6 Mollusca 1.7) 1.7 Arthropoda 1.8) 1.8 Echinodermata	
2. Chapter 2: The Cell 2.1) 2.1 Cell membranes and movement across membrane	
3. Chapter 3: Microscopy 3.1) 3.1 Nuclear organization of cell 3.2) 3.2 Nuclear envelope, molecular trafficking, nucleolus, RNA processing, chromosomes, chromatin, DNA 3.3) 3.3 Extra nuclear organization of cell, organelles and cytoplasm	
4. Chapter 4: Cell reproduction 4.1) 4.1 Cell reproduction I: Eukaryotic chromosomes, mitotic cell division, meiosis, spermatogenesis, oogenesis 4.2) 4.2 Cell reproduction II: DNA: The genetic material, Inheritance patterns in animals	

Assessment Breakdown		%	
Continuous Assessment		100.00%	

Details of Continuous Assessment	Assessment Type	Assessment Description	% of Total Mark	CLO
	Final Test	Final Test	40%	CLO4
	Presentation	Video Presentation	15%	CLO3
	Test	Mid-term Test	25%	CLO1
	Written Report	Lab report	20%	CLO2

Reading List	Recommended Text
	<ul style="list-style-type: none"> • Stephen Miller and John Harley 2016, <i>Zoology</i>, 10 Ed., Mc Graw Hills [ISBN: 0077837274] • Charles, F. L and John R. M. (2009). <i>General Zoology Laboratory Guide</i>. (15th ed.). • Cleveland, P. H., Jr., Larry, S. R., Susan, L. K., David, J. E., Allan, L. and Helen, I., (2011). <i>Integrated Principles of Zoology" (15th ed)</i>. • Van de Graaff, K.M. and J.L. Crawley. (2009). <i>A Photographic Atlas for the Zoology Laboratory, 5th Edition</i>.
Article/Paper List	This Course does not have any article/paper resources
Other References	This Course does not have any other resources