

Semester:	01		
Course Code:	BIOL 11552		
Course Name:	Evolutionary Biology and Biogeography		
Credit Value:	02		
Status:	Compulsory		
Pre-requisite:	GCE A/L Biology		
Co-requisites:	None		
Hourly Breakdown:	Theory	Practical	Independent Learning
	24	10	66
Intended Learning Outcomes:			
After completion of this course unit, the student will be able to:			
<ol style="list-style-type: none"> 1. explain evolutionary concepts, evolutionary patterns and human evolution, 2. explain the origin and diversification of early life forms, 3. explain the reproductive isolation mechanisms and origin of species, 4. explain the adaptive radiation of vertebrates, 5. describe concepts in biogeography and regional distribution of biota with special reference to Sri Lankan fauna, and 6. discuss the effect of climate change on biogeography. 			
Course Content:			
<p>History of evolutionary thought and biological evolution. Population genetics and genetic basis of evolution. Variation of traits. Mechanism of evolution. Natural selection. Speciation and reproductive isolation mechanisms, Adaptive radiation. Theories of origin of life on earth. Diversification of prehistoric life. Plant and animal invasion into land. Human evolution. Global human population. Extinction of life forms including mass extinctions.</p> <p>Brief biogeographic history of the earth. Continental drift and the Theory of plate tectonics. Biogeographic regions of the world with associated fauna and flora. Dispersal mechanisms of organisms and species distribution patterns in the world. Theory of Island Biogeography. Global distribution patterns of biota with special reference to Sri Lanka and endemism. Climate change and its effects on biogeography.</p> <p>Practical sessions on the following: Video presentations on origin of earth and life. Laboratory simulation on population genetics and Hardy-Weinberg principle. Laboratory session on cladogram and phylogenetic tree. Adaptive radiation in vertebrates based on selected anatomical structures.</p>			
Teaching /Learning Methods:			
A combination of lectures, practical sessions, computer-based learning, self-studies, assignments and small group discussions based on a field study visit to the Natural History Museum in Colombo.			

Assessment Strategy: Continuous assessment and end of semester examination. Percentage given for each sub-component indicates the percent contribution to the final marks.			
Continuous Assessment 30 %		End of semester examination 70 %	
Details:		Theory 70 %	Practical -
Quizzes	10 %		-
Assignments	10 %		
Practical reports	10 %		
Recommended Readings:			
<ol style="list-style-type: none"> 1. Cox, C. B., P. D. Moore & R. J. Ladle (2016). Biogeography: an ecological and evolutionary approach. John Wiley & Sons. 2. Hickman, K., S. Keen, D. Eisenhour, A. Larson & H. I'Anson (2020). Integrated Principles of Zoology, 18th Edition, McGraw-Hill. 3. MacDonald, G. M. (2003). Biogeography-space, time and life. John Wiley & Sons. 4. Raven, P. H. & G. B. Johnson (2010). Biology. 8th Edition. Tata McGraw-Hill. 5. Reece, J. B., L. A. Urry, M. L. Cain, S. A. Wasserman, P. V. Minorsky & R. B. Jackson (2011). Campbell Biology, Global Edition. 9th Edition. Pearson Education Inc., San Francisco, CA. 			