

**Course Code** : ENCM 11512  
**Title** : Evolution of Earth and Biogeography  
**Pre-requisite** : G.C.E. A/L Biology  
**Co-requisite** : None  
**Status** : Compulsory, Theory cum Practical

**Learning outcomes:**

After completion of the course unit, the student will be able to;

- explain the origin and the diversification of earth,
- explain the origin and diversification of life forms,
- explain evolutionary concepts, evolutionary patterns and human evolution,
- describe basic concepts in biogeography,
- describe regional distribution of biota, and
- discuss the effect of climate change on biogeography.

**Course content:**

History of evolutionary thought and biological evolution, Population genetics and evolution, Variation, Mechanism of evolution, Natural selection, Speciation, Adaptive radiation, Types of evolution, Origin of earth, hydrosphere, lithosphere and atmosphere, Theories of origin of life on earth, Diversification of prehistoric life, Atmospheric changes after the origin of life, Plant and animal invasion into land, Human evolution, Extinction of life forms including mass extinctions.

Biogeographic history of earth, Plate tectonics, seismic activities and continental drift, Biogeographic regions of the world with fauna and flora, Dispersal of species and species distribution in the world, Theory of Island Biogeography, Regional distribution of biota with special reference to Sri Lanka and endemism.

Practical sessions on adaptive radiation of selected animals and cladistics.

**Method of teaching and learning:**

A combination of lectures, practical sessions, computer based learning, assignments, and small group discussions.

**Assessment:**

In-course assessment and end of semester examination.

**Recommended reading:**

1. Raven, P. H. & G. B. Johnson (2010). Biology. 8<sup>th</sup> Edition. Tata McGraw-Hill.
2. Reece, J. B., L. A. Urry, M. L. Cain., S. A. Wasserman., P. V. Minorsky & R. B. Jackson (2011). Campbell Biology, Global Edition. 9<sup>th</sup> Edition. Pearson Education Inc., San Francisco, CA.
3. MacDonald, G.M. (2003). Biogeography-space, time and life. John Wiley & Sons.