



COURSE CURRICULUM

Course Title: Evolution & Biogeography

Course Code:

Credit Units: 02

Level: PG

Course Objectives:

The objective of this course is to describe about the history of biogeography, study the ecology of dispersal and faunal exchange and, island biogeography theory. To study the biogeographical processes, classification, realms, provinces and eco-regions, and also study affinities of the fauna and flora of the Indian sub-continent.

Prerequisites:

Graduate from Biological science Bachelor degree in science/Zoology/Botany/ Anthropology/ Veterinary/Environmental Science/Forestry/ Agriculture/Geography/Natural Resources/Ecology and minor in any of these subjects.

L	T	P/S	SW/FW	TOTAL CREDIT UNITS
2	0	0	0	2

Course Contents/Syllabus:

	Weightage (%)
Module I	30
History of biogeography. Ecology of dispersal and faunal exchange, barriers, mode of dispersal, origins and radiation; island biogeography theory.	
Module II	30
Historical biogeography, biogeographical processes, endemism, refugia. Continental drift; dispersal and vicariance biogeography; cladistics; dispersal mechanisms and dispersal barriers; reconciling distribution of fauna and flora.	
Module III	40
Applied Biogeography; biogeographical realms, provinces and ecoregions. The biogeographic affinities of the fauna and flora of the Indian sub-continent.	

Student Learning Outcomes: Upon completion of this unit, students will be able to:

1. Demonstrate how natural selection allows evolutionary change and adaptation of populations;
2. Demonstrate how new species can evolve.
3. Demonstrate which factors influence the distribution of animals and plants at local and global levels; and demonstrate origin and evolution of organisms and biological communities on islands and appreciate the effect of continental drift and climatic changes on the origin and evolution of Indian biota.

Pedagogy for Course Delivery:

Class room lectures, PowerPoint presentations, Tutorial sessions, Discussions and Interactions, and assignments/tests/term papers/seminars

Assessment / Examination Scheme:

Theory L/T (%)	Lab/Practical/Studio (%)	End Term Examination
30%	NA	70%

Theory Assessment (L&T):

Continuous Assessment/Internal Assessment					End Term Examination
Component (Drop down)	Mid-Term Exam	Project	Viva	Attendance	
Weightage (%)	10	10	5	5	70

References

1. Peterson, A.T., J. Soberón, R. G. Pearson, R. P. Anderson, E. Martínez-Meyer, M. Nakamura, and M. B. Araújo. 2011. *Ecological niches and geographic distributions*. Monographs in Population Biology, 49. Princeton University Press. (ISBN 978-0-691-13688-2, paperback)
2. Textbook on *Biogeography* by Mark Lomolino, Brett Riddle and James Brown.
3. Diniz-Filho, J.A.F., Loyola, R.D., Raia, P., Mooers, A.O., and Bini, L.M. (2013) Darwinian shortfalls in biodiversity conservation. *Trends in Ecology and Evolution* 28: 689-695.