

2.00 credits

30.0 h

Q2

Teacher(s)	Nieberding Caroline ;Wesselingh Renate ;
Language :	French
Place of the course	Louvain-la-Neuve
Prerequisites	A basic knowledge of ecology (e.g. LBIO1117) is required for this course and ideally also some knowledge of evolution.
Main themes	This theoretical section addresses both historical and ecological explanations for the current distribution of living beings.
Learning outcomes	At the end of this learning unit, the student is able to : Discuss the ancient and current causes of the geographical distribution of living beings and their groupings and the dynamics of this distribution
Evaluation methods	Written exam with open questions, with two separate series of questions, one for each section. The average of the two scores will be calculated to give the final score.
Teaching methods	Lectures.
Content	<p>The partial course LGEO1332A contains the theoretical part of the complete course LGEO1332, without the practical work.</p> <p>Historical biogeography (15h, Caroline Nieberding) Historical factors that influence present-day distributions: continental drift, climate change, mass extinctions; global distribution of diversity at higher taxonomic levels; phytogeographical kingdoms and zoogeographical provinces; centres of origin; vicariance; long-distance dispersal; ice ages; Quaternary phylogeography; glacial refugia; diversification.</p> <p>Ecological biogeography (15h, Renate Wesselingh) Patterns of biodiversity: counting species, gradients of biodiversity, hotspots, diversity in time (succession, climax), richness and diversity. Patterns of distribution: geographical range, methods to represent distribution ranges on maps, effects of scale, limits to distributions, overcoming the barriers, types of connections, relictual distributions, endemism, dispersal, invasions, migration, the ecological niche, niche overlap, fundamental and realized niche. Communities and ecosystems: community richness, alpha, beta, gamma, and delta richness, diversity index, closed and open communities, plant growth forms, plant formations, biomes, zonal vegetations, arid regions, interzonal vegetations, predictive models. Island biogeography : types of islands, arriving on an island, species-area relationships, surviving on an island, the Theory of Island Biogeography, evolution and speciation on islands, adaptive radiation, insularity syndromes.</p>
Inline resources	Moodle website for LGEO1332
Bibliography	Cox, C.B. & P. D. Moore (2005). Biogeography, an ecological and evolutionary approach (7th edition). Blackwell Publishing
Other infos	Basic knowledge of the principles of ecology is required (e.g. LBIO1117).
Faculty or entity in charge	GEOG

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Learning outcomes
Additionnal module in Biology	APPBIOL	2		