


 Faculty of Sciences

GEO1332 Biogeography

[45h+24h exercises] 5 credits

This course is not taught in 2005-2006

Language: French

Level: First cycle

Aims

A study of the historical and actual causes of the geographic distributions of species and communities, as well as the dynamics of these distributions.

Main themes

Introductory ecology (15h, only for geography students without previous knowledge of ecology) : ecology of individuals (autecology), populations, communities and ecosystems. The course consists of 6h of lectures and 4 successive individual papers on a specific plant species, the species it interacts with and its habitat.

Biogeography (30h, for all students)

Historical biogeography

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; barriers to dispersal.

Descriptive biogeography

Geographic distribution of a single species: data, cartographic methods, effects of scale.

Flora and vegetation: factors explaining floristic species richness and diversity; biomes of the world; importance of precipitation and temperature in determining vegetation; phytogeographical regions and sectors of Europe; phytogeographical districts of Belgium; describing a vegetation: physiognomical (growth form, stratification), ecological and phytosociological criteria; classification systems: CORINE.

Dynamic biogeography

Climax, succession; influence of human activities; the niche concept; the area-species relationship; island biogeography; communities; assemblages; landscapes; metaclimax; dispersal, migration, biological invasions.

Other information (prerequisite, evaluation (assessment methods), course materials recommended readings, ...)

Prerequisite : Introductory Ecology (BIO1351/BIOL1210) for students enrolled in the UCL Biology program. For students in Geography, the first 15 hours of the course serve as a replacement of the Introductory Ecology course. Non-biology students from other UCL programs or from other universities who can prove a proficiency in basic ecology can receive a dispensation for this first part. The students concerned should contact the teachers at the start of the semester.

Evaluation: written examination.

Support: syllabus, PowerPoint presentations.

Field excursions: the 24h of field excursions are for the geography students only, the practical part of this course for biology students is included in the course BIO1352/BIOL2191.