



## BIO1251 Introductory ecology

[60h+15h exercises] 6 credits

This course is taught in the 2nd semester

**Teacher(s):** Michel Baguette (coord.), Thierry Hance, Anne-Laure Jacquemart, Éric Le Boulengé, Hans Van Dyck, Renate Wesseligh  
**Language:** French  
**Level:** First cycle

### Aims

To understand how ecological systems are structured in space and time, from the basic level, the individual, up to the most complex levels, communities and ecosystems. To analyse the dynamics of these systems (adaptation, evolution, speciation) under the influence of natural environmental changes and those caused by human activities. To master research methods in ecologie (observation, experiments, modelling).

### Main themes

- 1-Introduction. The order of the natural world; discovering the order of nature.
- 2-Organisms in physical environments. Life and the physical environment; water and solute balance; energy and heat; response to variation in the environment; biological factors in the environment; climate, topography, and the diversity of the natural world.
- 3-Energy and materials in the ecosystem. The ecosystem concept; energy flow in ecosystems; pathways of elements in ecosystems; nutrient regeneration in terrestrial and aquatic ecosystems; regulation of ecosystem function.
- 4-Population ecology. Population structure; population growth; population regulation; metapopulations; population fluctuation and cycles; extinction, conservation, and restoration.
- 5-Population interactions. Resources and consumers; competition theory; competition in nature; predation; herbivory and parasitism; coevolution and mutualism.

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

Evaluation : Written exam.

Support : Syllabus, PowerPoint presentations. The book on which this course is based is Ecology (4th edition) by R.E. Ricklefs & G.L. Miller (Freeman & Co.). To follow this course, it is not necessary to buy the book, which also exists in a French translation (De Boeck), but it is available in the Sciences Library.

### Other credits in programs

<b>BIOL12BA</b>	Deuxième année de bachelier en sciences biologiques	(6 credits)	Mandatory
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