# LBIO1251

*2015-2016*

# Ecology

| 5.0 credits | 60.0 h + 15.0 h | 2q |
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| Teacher(s) : | Wesselingh Renate ; Van Dyck Hans ; |
| Language : | Anglais |
| Place of the course | Louvain-la-Neuve |
| Prerequisites : | *The prerequisite(s) for this Teaching Unit (Unité d'enseignement – UE) for the programmes/courses that offer this Teaching Unit are specified at the end of this sheet.* |
| Main themes : | All elements of ecology, from the individual to the ecosystem via populations and population interactions, will be dealt with in this course, to give the student basic knowledge that will be built upon in other, advanced courses later in the curriculum. The theoretical course is entirely given in English, but questions can be asked (and will be answered) in French. |
| 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). To familiarize students with listening to and understanding scientific English.<br>*The contribution of this Teaching Unit to the development and command of the skills and learning outcomes of the programme(s) can be accessed at the end of this sheet, in the section entitled "Programmes/courses offering this Teaching Unit".* |
| Content : | 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. Practical work for biology students : observations and experiments on three trophic levels (plant, herbivore, carnivore) in the Bois de Lauzelle. Other students : individual observations during spring and development of scientific hypotheses based on these observations. |
| Other infos : | Evaluation : Written exam (in French) on the theoretical part (80%) and written report on practical work (20%)<br>Support : Syllabus, PowerPoint presentations. The book on which this course is based is Ecology (4th edition, 1999) by R.E. Ricklefs & mp; G.L. Miller (Freeman & mp; 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. |
| Faculty or entity in charge: | BIOL |

## Programmes / formations proposant cette unité d'enseignement (UE)

| Intitulé du programme | Sigle | Credits | Prerequis | Acquis d'apprentissage |
|---|---|---|---|---|
| Minor in Population and Development Studies | LSPED100I | 5 | - | |
| Bachelor in Biology | BIOL1BA | 5 | LPHY1121 **and** LBIR1130 **and** LBIO1112 **and** LANG1861 | |
| Minor in Scientific Culture | LCUSC100I | 6 | - | |
| Minor in Development and Environment | LDENV100I | 6 | - | |