UCL — Université catholique de Louvain

LBRAI2217
2013-2014

Meadows and trails

4.0 credits	45.0 h	2q

Teacher(s) :	Ben Youssef Sadok Mohamed Walid ; Lambert Richard (coordinator) ;
Language :	Français
Place of the course	Louvain-la-Neuve
Inline resources:	iCampus
Prerequisites :	Botany, plant physiology, plant science , animal science (ruminant nutrition)
Main themes :	Importance of grasslands (economy, N and C cycles N, soil protection, biodiversity) History and Evolution Species identification and inventory methods Ecology, conservation, restoration and agri-environmental measures Physiology of growth of grasses in relation to primary production and quality Crop and pasture management Association grasses-legumes
Aims :	a. Contribution of instruction with regards to the referential of leaning outcomes 1.1, 1.4 ,1.5 3.7, 3.8 4.1, 4.2, 4.3, 4.7 6.6, 6.7 7.1 8.1 b . Specific formulation for this activity AA program (maximum 10) At the end of this activity, the student will be able to : mobilize his theoretical knowledge to analyze and understand a grassland system propose improvements to the grassland system based on the objectives of the farmer recognize the main species (grasses, legumes and weeds) that make up the grassland flora diagnose conditions and farming environment based on the knowledge of the ecology of species *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".*
Evaluation methods :	Description, analysis and critical analysis of the grassland system management and functioning is performed by the student on the bassis of knowledge acquired during the instruction. Oral exam subsequent to a writing session aiming at assessing theoretical knowledge, followed be a session dedicated to the (i) recognition of major grasses and legumes and (ii) discussion of their ecology.
Teaching methods :	A selection of documents available on iCampus Dropbox, supplemented by lectures. Visits of grassland farms, 'natural' meadows are used to illustrate theoretical knowledge and compare contrasting viewpoints from farmers, managers of natural areas and conservation scientists. A collection of grassland species, installed at the farm Marbaix is used for learning of recognition techniques of diverse grasses. Botanical surveys are also carried out in meadows and these will be used to diagnose management techniques and environmental conditions.
Content :	The course is based on the analysis of the importance of grasslands and rangelands in relation to economical and environmental considerations (e.g., multifunctionality of grasslands). It presents the history and development of grasslands in the context of a constantly changing agriculture. Selected species are studied on the basis of their systematics, morphology, ecology and their interaction in a cover in response to management and environmental conditions. A focus is made on grass-legume mixtures and the emphasis is also placed on grassland management (pasture types, methods of harvesting and conservation) as well as on nutritional/qualitative attributes that strongly influence animal performance. Aspects related to conservation and restoration of biodiversity, water quality, soil protection, carbon storage are also presented. Visits and field sessions are offered in order to practice inventory techniques. Analytical reports will be requested to address options for improving environmental and economical performance of grassland systems.

Bibliography :	Instruction material L. Vigneau-Loustau & mp; C. Huyghe, 2008. Stratégies fourragères. Ed France Agricole Peeters A, Wild and sown grasses. Philippe A et al., 2008. Prairies traditionnelles d'Ardenne. Collection Agrinature n°2 Van Gelderen et al., Rencontre au c'ur des prairies de haute valeur biologique. Collection Agrinature n°7 Deprez B et al., 2007. Les prairies temporaires : une culture durable pour les exploitations mixtes de la Moyenne Belgique. Les dossiers de la recherche. Knoden et al., 2007. Fertilisation raisonnée des prairies. Les livrets de l'Agriculture.
Cycle and year of study :	> Master [120] in Agricultural Bioengineering
Faculty or entity in charge:	AGRO