UCLouvain

lbrai2106

2023

Crop science

6.00 credits	50.0 h + 10.0 h	Q2

Teacher(s)	Bertin Pierre ;
Language :	French > English-friendly
Place of the course	Louvain-la-Neuve
Prerequisites	Baccalaureate courses in bioengineering or exact sciences, particularly general and plant biology, ecology, earth sciences. Bioengineering master courses: plant production, agrarian systems. Other desired courses: soil sciences, biosphere engineering, systems analysis.
Main themes	Topics covered : Crop science of the main field crops and horticultural crops in temperate regions; tropical field crops. Evolution of the state of the land and crops during the seasons. Work to be carried out (tillage, sowing, fertilization, weeding, phytosanitary treatments, harvests) ' Recognition of weeds of field crops at an early stage and specific keys of determination. Partim A: field crops and market gardening in temperate regions Partim B : tropical cultures Partim C: fruit crops in temperate regions
Learning outcomes	**At the end of this learning unit, the student is able to :** a. Contribution of the activity to the AA reference frame (AA of the program) To know and understand a base of in-depth knowledge in the field of plant production (M1.1, M1.2, M2.2) Activate and mobilize one's knowledge in engineering according to a quantitative approach, in front of a complex agronomy problem at the plant and field scales (M2.4) Propose an analytical and systemic scientific approach to deepen a research problem in the field of plant production (M3.3, M3.4) 1 b. Specific formulation for this AA activity of the program At the end of this activity, the student will be able to : - to establish the phytotechnical acts and to justify them according to the physiology and ecophysiology of the plant - to reason a method of phytosanitary protection according to the environmental and physiological constraints of the crop - to criticize the relevance of phytotechnical acts in the global framework of the productive system
Evaluation methods	Written exam. Cross-curricular and synthesis questions aimed at evaluating the reasoned and critical approach to agricultural practices.
Teaching methods	Lectures, largely illustrated with photos and diagrams, visits to agricultural service websites (warnings, manuring advice), direct observation of engine parts - Follow-up of culture development by plant dissection - Farm tours with agricultural service specialists and farmers
Content	Partim A: field crops and market gardening in temperate regions - Lectures : Sustainable agriculture: organic farming, conservation agriculture, agroecology. Rotation, tillage and sowing, organic and mineral fertilization, ecological requirements and crop cycles, phytosanitary protection (weeds, diseases, pests), harvests, environmental impact, excursions: farm visits (conventional, organic and conservation agriculture) - excursions: farm visits Partim B : tropical cultures - Lectures : Family farming. Cropping systems and main agricultural ecologies of tropical regions; food crops; perennial crops; crop associations Partim C: fruit crops in temperate regions Horticultural techniques in fruit growing (cutting, grafting, layering); physiology of growth, flowering and fruiting; growing systems

Inline resources	Moodle
Bibliography	Nombreuses sources en ligne d'institutions de service agricole (CIPF, IRBAB, CEPICOP, Terres Inovia...) Références bibliographiques données dans les montages powerpoint Numerous online sources of agricultural service institutions (CIPF, IRBAB, CEPICOP, Terres Inovia...) References given in the Powerpoint presentations
Faculty or entity in charge	AGRO

Programmes containing this learning unit (UE)

Program title	Acronym	Credits	Prerequisite	Learning outcomes
Master [120] in Agricultural Bioengineering	BIRA2M	6		