UCLouvain

lbira2109

2021

Agrarian systems and farm

3.00 credits	30.0 h	Q1

Teacher(s)	Bertin Pierre ;
Language :	French
Place of the course	Louvain-la-Neuve
Prerequisites	(confirmed) Courses in biology, ecology, biosphere engineering, economics, soil science for the first three years of the bioengineering program or equivalent.
Main themes	Study of the diversity and the spatial and temporal evolution of agrarian systems, in order to understand their functioning and dysfunction, the cause and nature of their evolution. Analysis of current systems and search for sustainable solutions. Origin of agriculture. Evolutionary dynamics of agrarian systems. Sustainability of agrarian systems and impact of the agroecosystem on the environment and human societies. Necessary conditions for the functioning of agrarian systems: tools, manpower, fertility renewal, plant-animal interactions. Methodology for the study of the dynamics of agrarian systems, their balance or dysfunction: ecological, economic, social and political causes of the genesis, evolution and collapse of the systems over the course of history. Search for new balances.
Learning outcomes	**At the end of this learning unit, the student is able to :** a. Contribution of the activity to the AA standard (AA of the program) To know and understand a base of in-depth knowledge in the field of agrarian systems (M1.1, M1.2, M2.4, M2.5) Activate and mobilize its engineering knowledge according to a quantitative approach, in the face of a complex agronomic problem on a system-wide scale (M1.1, M1.2, M2.4, M2.5) Propose a rigorous and innovative scientific approach to deepen a research problem in the field of agrarian systems (M1.3, M3.3, M3.7, M3.8). Design and implement a complete and innovative engineering approach (M4.1 to M4.7) Communicate (M6.1, M6.3, M6.7) Act as a responsible actor (M7.1, M7.3) b. Specific wording for this A.A. activity in the program (maximum 10) At the end of this activity, the student is able to : 1 : M1 know and understand the functioning of agrarian systems and their impact environmental 1 2: M2 mobilize knowledge critically in the face of a complex problem on the scale of the agro-ecosystem, integrating the disciplines of agronomy, ecology, geography, climatology, technology, economics, sociology, agricultural policy, etc. 3: M3 be able to formulate a research question related to the functioning of the agrarian system, and design and implement a methodology to answer it 4: M4 strategically distinguish the key elements relating to a complex issue of the functioning/dysfunction of an agrarian system 5: M4 analyze this question using a systemic and multidisciplinary approach in order to make a diagnosis. 6: M4 be able to conceptualize the issues raised 7 : M6 understand and exploit scientific articles specialized in the course themes 8 : M6 pose a complex problem in a synthetic way 9 : M7 demonstrate intellectual independence, take a critical look at the impact of global and specific practices of agro-ecosystems. 10 : M7 integrating humanistic values, cultural openness and solidarity in the analysis of agro-ecosystems
Evaluation methods	Written exam on transversal and synthesis questions, where the student will have to demonstrate analytical and critical thinking skills based on specific knowledge acquired in teaching.
Teaching methods	Lectures with concrete examples, case studies, guided questions. Scientific publications of international general or specialized journals, book chapters, documentaries, etc.
Content	Itinerant agriculture and sedentarization. Hydraulic systems. Mountain agriculture. Fallow systems. Fallow land systems. Mechanization, chemization, genetic improvement. Transport and globalization. Conventional agriculture. Organic agriculture. Conservation agriculture. Agroecology. Permaculture.

Inline resources	Moodle
Bibliography	Voir montages powerpoint See powerpoint montages
Other infos	This course can be given in English
Faculty or entity in charge	AGRO

Programmes containing this learning unit (UE)

Program title	Acronym	Credits	Prerequisite	Learning outcomes
Master [120] in Geography : General	GEOG2M	3		
Master [120] in Agricultural Bioengineering	BIRA2M	3		
Master [120] in Environmental Bioengineering	BIRE2M	3		
Master [120] in Forests and Natural Areas Engineering	BIRF2M	3		
Master [120] in Agriculture and Bio-industries	SAIV2M	5		
Interdisciplinary Advanced Master in Science and Management of the Environment and Sustainable Development	ENVI2MC	3		
Master [120] in Environmental Science and Management	ENVI2M	3		