UCLouvain

lbir1328a

2019

In view of the health context linked to the spread of the coronavirus, the methods of organisation and evaluation of the learning units could be adapted in different situations; these possible new methods have been - or will be - communicated by the teachers to the students.

2 credits	22.5 h	Q1

Teacher(s)	Bielders Charles ;Goosse Hugues ;Vanclooster Marnik (coordinator) ;
Language :	English
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.*
Aims	*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	**Due to the COVID-19 crisis, the information in this section is particularly likely to change.** • An examination is organized during the official examination period. The examination is a closed notebook written exam with oral defense. The duration of the exam is fixed at 2h30, of which 2 hours devoted to the written preparation of the answers, and 30 minutes to the oral defense of these answers (10 minutes before each lecturer of the course). • The examination schedule is set by the AGRO Faculty Secretariat. • The examination is organized, by default, in French. The student can do an exam in English. In the latter case, the student requests authorization to conduct the exam in English from the course coordinator by email (marnik.vanclooster@uclouvain.be) at least 48 hours before the start of the exam. • The mark of the course will be the weighed average of the mark of the examination (85 % of the total weight) and the results obtained for the 'entry tickets test' of the pratical work (15 % of the total weight). Each part of the course presented by each lecturer contributes to 1/3 of the final mark of the exam, provided that the student obtains at least 6/20 for each part. If this condition is not met, the final score will be equal to the score of this part for which the student scored the lowest.
Teaching methods	**Due to the COVID-19 crisis, the information in this section is particularly likely to change.** Theoretical course : Lectures in audience. Exercises : • Exercices in computer room • Supervised exercise sessions • Field excursion
Content	Bio-climatology • Exchange of heat and mass in the boundary layer of the atmosphere, inside plant communities and in the top layer of the soil. • Mechanisms of climate formation: atmospheric structure, vertical profiles in the lower layers, lateral movement, atmospheric circulation, clouds and precipitation, greenhouse effect, effects of landscape elements, dynamic and thermal action of relief and vegetation. • Influence of human activities on climate and impacts of global climate change. Hydrology • Water management issues at the plot and watershed scale. • The different components of the hydrological cycle (rain, infiltration, runoff, drainage, hypodermic flow, evapotranspiration): process, mathematical description, methods of measurement and interpretation. • Hydrological modelling at the plot and watershed scale. • Control structures for surface runoff and collection of runoff water.
Inline resources	• The slides and course comments are available on the MOODLE website of the course. • Practical work assignments are available on the MOODLE website of the course. • Example exam questions are available on the MOODLE site of the course at least 3 weeks before the start of the examination session.

Bibliography	• Syllabus : Notes du cours LBIR1328 Climatologie et hydrologie appliquée à l'agronomie et l'environnement Partie I. Climatologie, Hugues Goosse '' In, 158. Louvain-la-Neuve, Belgique: Université catholique de Louvain. • Ouvrage de référence : Musy, A. 2004. « Hydrologie. Une science de la nature. » Presses polytechniques et universitaires romandes. ISBN : 2-88074-546-2.
Other infos	This course is taught in English, but the support of the course (syllabus, slights) is in French. Examination can be organised in French or English
Faculty or entity in charge	AGRO

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Aims
Interdisciplinary Advanced Master in Science and Management of the Environment and Sustainable Development	ENVI2MC	2		
Master [60] in Environmental Science and Management	ENVI2M1	2		
Master [120] in Environmental Science and Management	ENVI2M	2		
Bachelor in Bioengineering	BIR1BA	2	LBIR1221	