







Teacher(s)	Alonso Alice (compensates Vanclooster Marnik) ;Bielders Charles (coordinator) ;Goosse Hugues ;Vanclooster Marnik ;
Language :	English
Place of the course	Louvain-la-Neuve
Prerequisites	<i>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.</i>
Learning outcomes	
Evaluation methods	<ul style="list-style-type: none"> <li>• The examination is organised in examination sessions. It is a closed book written examination.</li> <li>• The timetable of the examination is set by the AGRO Faculty secretariat.</li> <li>• The examination is organised, by default, in French. Students who wish to do so may take the examination in English. In the latter case, the student requests permission to conduct the exam in English from the course coordinator by email (charles.bielders@uclouvain.be) at least 48 hours before the start of the exam.</li> <li>• For LBIR1328 (6 ECTS): The examination mark counts for 85% and the 'entry tickets' for practical work count for 15% in the final mark. For the theoretical part, each part of each teacher counts equally in the examination mark.</li> <li>• For LBIR1328A (2 ECTS): Each mark for each each part of each teacher is equally distributed in the examination mark.</li> <li>• In a second session, the mark from the successful parts of the first session are automatically considered when the student has obtained at least 14/20 for those successful parts.</li> </ul>
Teaching methods	Theoretical course : Lectures in audience. Due to lecture room capacity limitations related to the COVID crisis, some part of the course can be organised at distance. Exercises : <ul style="list-style-type: none"> <li>• Exercices in computer room</li> <li>• Supervised exercise sessions</li> <li>• Field excursion</li> </ul>
Content	Bio-climatology <ul style="list-style-type: none"> <li>• Exchange of heat and mass in the boundary layer of the atmosphere, inside plant communities and in the top layer of the soil.</li> <li>• 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.</li> <li>• Influence of human activities on climate and impacts of global climate change.</li> </ul> Hydrology <ul style="list-style-type: none"> <li>• Water management issues at the plot and watershed scale.</li> <li>• The different components of the hydrological cycle (rain, infiltration, runoff, drainage, hypodermic flow, evapotranspiration): process, mathematical description, methods of measurement and interpretation.</li> <li>• Hydrological modelling at the plot and watershed scale.</li> <li>• Control structures for surface runoff and collection of runoff water.</li> </ul>
Inline resources	<ul style="list-style-type: none"> <li>• The slides and course comments are available on the MOODLE website of the course.</li> <li>• Practical work assignments are available on the MOODLE website of the course.</li> <li>• Example exam questions are available on the MOODLE site of the course at least 3 weeks before the start of the examination session.</li> </ul>
Bibliography	<ul style="list-style-type: none"> <li>• 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.</li> <li>• Ouvrage de référence : Musy, A. 2004. « Hydrologie. Une science de la nature. » Presses polytechniques et universitaires romandes. ISBN : 2-88074-546-2.</li> </ul>
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
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Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Learning outcomes
Additionnal module in Geography	APPGEOG	6		
Master [120] in Biology of Organisms and Ecology	BOE2M	6		
Bachelor in Bioengineering	BIR1BA	6	LBIR1221	
Minor in Scientific Culture	MINCULTS	6		
Minor in Geography	MINGEOG	6		
Master [120] in Agriculture and Bio-industries	SAIV2M	6		
Interdisciplinary Advanced Master in Science and Management of the Environment and Sustainable Development	ENVI2MC	6		