

5.00 credits

37.5 h + 22.5 h

Q2

Teacher(s)	Fichet Thierry ; Massonnet François ;
Language :	French
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>
Main themes	General characteristics of the atmosphere; thermodynamics of dry air and moist air; static stability of the atmosphere; atmospheric dynamics; atmospheric heat gains and losses; large-scale atmospheric mean flows; air masses, fronts and synoptic weather systems; weather forecasting; regional climatic processes; climate changes.
Learning outcomes	At the end of this learning unit, the student is able to : 1 To acquire the basic notions of meteorology needed to understand the main atmospheric phenomena and weather forecasting as well as some additional training in climatology.
Evaluation methods	Oral exam with written preparation (75% of the final mark). Homework (25% of the final mark). This second part of the mark will be used for each session and cannot be updated. In case of force majeure, the modalities of teaching and examination will be reassessed according to the situation and the rules in force.
Teaching methods	Theoretical lectures in classroom. Tutored practicals. Commented visit of the Wing Meteo of the Belgian Air Force (Beauvechain). Homework (mandatory): analysis of a particular meteorological situation.
Content	1. The atmosphere 2. Thermodynamics of dry air 3. Thermodynamics of moist air and saturated air 4. Condensation processes 5. The vertical equilibrium in the atmosphere 6. Reminders and complementary notions of mechanics 7. The wind 8. Heat inputs in the atmosphere 9. The general circulation of the atmosphere 10. Air masses and their evolution 11. Weather systems These subjects are of major interest in understanding the issues surrounding sustainable development.
Inline resources	The slides projected during the lectures are available on MoodleUCLouvain.
Bibliography	Gordon, A., W. Grace, P. Schwerdtfeger and R. Byron-Scott, 1998: Dynamic Meteorology: A Basic Course. Arnold, London, U.K., 325 pp. Malardel, S., 2005 : Fondamentaux de Météorologie. Cépaduès éditions, Toulouse, France, 708 pp.
Faculty or entity in charge	GEOG

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Learning outcomes
Minor in Geography	MINGEOG	5		
Bachelor in Geography : General	GEOG1BA	5	LPHY1101 AND LPHY1102	