UCLouvain

larcb1361

2025

Comfort and Atmospheres

5.00 credits	40.0 h + 15.0 h	Q1

Teacher(s)	Van Moeseke Geoffrey ;
Language :	French
Place of the course	Bruxelles Saint-Gilles
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.*
Main themes	This course addresses architectural and technological measures aimed at ensuring high-quality atmospheres while minimizing energy consumption. It explores the relationship between the perception of comfort, related regulatory and technological aspects, and their architectural and environmental implications, including sustainability. The course provides students with the foundational knowledge needed to integrate these themes into their future design practices. Topics covered include: · Thermal comfort and air quality, · Visual comfort, · Acoustic comfort, · Comfort related to accessibility.
Learning outcomes	**At the end of this learning unit, the student is able to :** · Explain and apply metrics for the various types of comfort, · Advocate for an energy-conscious design approach in architectural projects, considering climatic, regulatory, and environmental contexts, · Describe the role and functionality of key equipment in ventilation, heating, and cooling systems at the building scale, · Apply standard sizing principles for ventilation, heating, and cooling systems to ensure air quality and thermal comfort, · Analyze and describe the parameters of visual comfort under natural and artificial lighting conditions, · Explain basic concepts of sound perception and propagation, as well as principles of acoustic correction and insulation, · Apply these concepts to evaluate and address simple problems related to airborne sound insulation, impact sound propagation, and acoustic correction, · Design and pre-dimension layouts and equipment to enhance mobility, including for individuals with reduced mobility, · Evaluate the sustainability of design and material choices. **General Learning Outcomes** In line with the program's learning outcomes (LOs), this course contributes to the development and acquisition of the following LOs: · LO1.3 Design spaces conducive to the well-being of both human and non-human occupants. · LO1.6 Incorporate Sustainable Development requirements into the design process, at multiple scales. · LO3.1 Acquire and explain the physical and physiological principles related to architecture. · LO3.2 Acquire and explain the construction and technical processes related to architecture. · LO3.3 Acquire and apply scientific and technical knowledge to realize an architectural project. · LO3.4 Acquire and explain the environmental, social, and economic consequences of construction and technical choices.
Faculty or entity in charge	LOCI

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Learning outcomes
Bachelor in Architecture (Bruxelles)	ARCB1BA	5	LARCB1163	