


 Faculty of Applied Sciences

**AUCE1901 Confort et Physique du bâtiment (thermique, acoustique et éclairage)**

[30h] 2 credits

This course is taught in the 2nd semester

**Teacher(s):** Marcelo Blasco, André De Herde, Elisabeth Gratia  
**Language:** French  
**Level:** First cycle

**Aims**

Understanding basic physical concepts for controlling atmosphere and comfort (thermal, acoustic, air quality, visual)

**Main themes**

Physical and physiological parameters of thermal, acoustic and visual comfort  
 Air pollutants and air quality level  
 Climatic data  
 Means of heat transfers in buildings  
 Hygrothermics  
 Ventilation of buildings  
 Means of propagation of sound  
 Soundproofing criteria  
 Static and dynamic approach to phenomena  
 Typology of models and digital modelization  
 Concepts of climatic architecture with examples

**Content and teaching methods**

The design and construction of a building that totally or partially meets the occupants' expectations for comfort. Starting with those expectations, the course goes into the physical aspects of heat transfers and propagation of sound. In addition, a section is reserved for natural ventilation and basic notions of the use of natural lighting.

To a large extent, the course material is accessible in electronic form; the teaching method enables interested students to go into it in greater depth in interaction with the teachers.

**Other information (prerequisite, evaluation (assessment methods), course materials recommended readings, ...)**

Prerequisites:

Course in thermodynamics

Evaluation:

The evaluation is done by an examination in French or in English.

**Other credits in programs**

<b>ARCH13BA</b>	Troisième année de bachelier en sciences de l'ingénieur, orientation ingénieur civil architecte	(2 credits)	Mandatory
<b>FSA12BA</b>	Deuxième année de bachelier en sciences de l'ingénieur, orientation ingénieur civil	(2 credits)	
<b>FSA13BA</b>	Troisième année de bachelier en sciences de l'ingénieur, orientation ingénieur civil	(2 credits)	
<b>FSA3DS/GC</b>	Diplôme d'études spécialisées en sciences appliquées (génie civil)	(2 credits)	
<b>GC22</b>	Deuxième année du programme conduisant au grade d'ingénieur civil des constructions	(2 credits)	
<b>GC23</b>	Troisième année du programme conduisant au grade d'ingénieur civil des constructions	(2 credits)	
<b>INCH22</b>	Deuxième année du programme conduisant au grade d'ingénieur civil chimiste	(2 credits)	