

UE Lautaret Field Course: Snow-Atmosphere interface

 ECTS
6 credits

 Component
UFR PhITEM
(physique,
ingénierie, terre,
environnement,
mécanique)

 Semester
Printemps

- > **Teaching language(s):** French
- > **Open to exchange students:** Yes
- > **Code d'export Apogée:** PAX8ACAB

Presentation

Description

The snowpack is an essential and unique component of the Earth's climate system. It forms an interface between the atmosphere and the ground, a place of intense exchanges of mass (water/ice), energy (radiative, turbulent), and chemical species (nitrogen, ...). It thus plays an important role in mountain hydrology (water resources, etc.), in ecology, in the thermal regime of the soil (permafrost), etc.

The course "Snow and atmosphere at Le Lautaret" aims at observing the alpine snow cover and the atmosphere from several angles: mass and energy balance of the surface, nivology, thermics, chemistry. The objective is to acquire new knowledge on snow and associated problems as well as technical and experimental skills.

This internship emphasizes autonomy and practical application with the use of instruments used in research and data processing in order to achieve elaborate scientific results. You will be in groups of 3, and will conduct a large number of observations during the internship, then process them to finally present the whole in the form of posters, which constitutes the final exam.

The course takes place every year at the end of February or the beginning of March at the Col du Lautaret (2100 m.a.s.l) over 6 days, during which you will address

- snowpack thickness mapping (GPS, GPR, 2 x 0.5 days)
- snowpack study: snow wells, stratigraphy, metamorphism (2 x 0.5 days)
- thermal regime (0.5 day).

- albedo of the anieg and energy balance (0.5 day).
- atmospheric ozone (0.5 day).
- snow optics (0.5 day).
- data processing and interpretation (0.5 day)

This course is also open to international students/professionals (Master, PhD), depending on available places, and is a good opportunity to open up in a beautiful and friendly environment.

Recommended prerequisites :

Basic knowledge of environmental physics

Language(s) : French

Course parts

TERRAIN

Terrain

48h

Useful info

Campus

› [Grenoble - University campus](#)