

Master in Earth, planetary and environmental sciences

Atmosphere-Climate-Continental Landmass

Presentation

The Atmosphere-Climate-Continental Landmass Programme follows on from the previous specialisation, "Water-Climate-Environment", with changes that take into account those made to the other programmes (in particular "Hydro-resources") and that offer greater clarity. The Atmosphere-Climate-Continental Landmass Programme is primarily a research-oriented course, and relies heavily on the Grenoble research laboratories' unique capabilities in climate and atmosphere studies. Eighty per cent of our students currently tend to go on to doctoral studies.

Nevertheless, the course still offers other non-thesis opportunities. The tools used in the classes, workshops and projects are therefore those already or soon to be used in the professional world. The programme strives for greater openness towards the world of work through the introduction of vocational modules, and by taking care with the general modules to systematically make the necessary links with "professional" applications: climate variability and the intermittent nature of renewable energy resources; etc.

<http://www.grenoble-inp.fr/masters/le-master-sciences-de-la-terre-et-de-l-environnement-343011.kjsp#page-presentation>

Objectives

The Atmosphere-Climate-Continental Landmass Programme primarily aims to train students through research into the functioning of the climate system and atmosphere in interaction with continental hydrosystems. The training is broad and multidisciplinary, because the problems addressed (climate change; air quality; evolution of continental hydrosystems) are complex and require coupled approaches. Continuing on to doctoral studies is a natural goal of this programme.

Environmental monitoring and forecasting require well-trained managerial staff. Air quality monitoring associations, consulting engineers and experts, local authorities, administrations and companies all have an interest in the use of new tools for environmental measurement, monitoring and forecasting. It should be emphasised that these potential opportunities are in addition to the pursuit of doctoral studies for our students.

Registration and scholarships

The M1 is open to students who have obtained a national diploma equivalent to a bachelor degree (licence) in a field compatible with that of the Master, or via a validation of their studies or experience.

Entry to the M2 may be selective. It is open to candidates who have completed the first year of a Master in the field, subject to a review of their application.

For candidates whose country of residence is not included in the "Studies in France" portal (PEF) scheme, the calendar for the eCandidat application campaigns is available [here](#).

Public continuing education:

You are in charge of continuing education:

- if you resume your studies after 2 years of interruption of studies,
- or if you followed training under the continuous training regime one of the previous 2 years
- or if you are an employee, job seeker, self-employed.

If you do not have the diploma required to integrate the training, you can undertake a [validation of personal and professional achievements \(VAPP\)](#).

Further studies

Doctoral thesis, in the field of Earth, Planetary and Environmental Sciences.

Practicals informations :

- > **School** : UFR PhITEM (physique, ingénierie, terre, environnement, mécanique)
- > **Duration** : 2 years
- > **Course type** : Initial and Continuing Education
- > **Location(s)** : Grenoble - Saint-Martin d'Hères
- > **Contacts** :

Programme director

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Programme administration

Registrar's Office of the Master in Earth, planetary and environmental sciences
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Application
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Program

Water, climate, environment portal 1st year

Semester 7

UE Climate and environmental variability	6 ECTS	48h
UE Organic geochemistry: pollutants, modeling	6 ECTS	48h
UE Scientific & professional communication	3 ECTS	24h
UE Hydrology and hydraulics	6 ECTS	48h
UE Meteorology: 1D and synoptic	3 ECTS	
UE Fluid mechanics	3 ECTS	24h
1 option (s) to choose from 1		
UE Intro workshop - professional project	3 ECTS	6h

Semester 8

UE Remote sensing and GIS project	6 ECTS	48h
UE Pollution atmosphérique : principes et méthodes expérimentales	6 ECTS	48h
UE Lautaret field workshop: snow & atmosphere interface	6 ECTS	
2 option (s) to choose from 4		
UE Field workshop hydrology and hydrometeorology	6 ECTS	
UE Instrumentation and metrology	6 ECTS	48h
UE Climate archives	3 ECTS	21h
UE Environmental flows	3 ECTS	57h

Master 2nd year

Semester 9

5 option (s) to choose from 13

UE Models for the physico-chemistry of the atmosphere	6 ECTS	42h
UE Atmospheric boundary layer : from fundamentals to air quality 1	3 ECTS	24h
UE Atmospheric boundary layer : from fundamentals to air quality 2	3 ECTS	24h
UE Cryosphere	6 ECTS	42h
UE Climate and anthropogenic impact	6 ECTS	42h
UE Hydrology of continental systems	6 ECTS	42h
UE Dynamics of geophysical fluids	6 ECTS	42h
UE Radiative transfer and remote sensing	6 ECTS	42h
UE Numerical modeling workshop	6 ECTS	8h
UE Wave dynamics	3 ECTS	24h
UE Ocean dynamics	3 ECTS	24h
UE Inverse methods and assimilation	6 ECTS	42h
UE Geostatistical	6 ECTS	42h

Semester 10

1 option (s) to choose from 2

UE Research internship

UE Company internship