

Sciences of Earth, Planets and Environment program

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In the 1st year of the master's, the emphasis is on the acquisition of the scientific approach. In the 1st semester, most lectures are common core dedicated to skills: Field school in the Alps, Digital tools (Introduction to Geodata science), Geochemistry and English. In the 2nd semester, the teachings are more specialized. For example, for a student interested in the Earth and the planets, the possible options are Signal processing, Experimental sciences, Numerical modeling, Methods of analysis, Magnetism and gravity, Convection and thermal of the Earth, Geochemistry of the solar system, Inverse methods, Seismology, Remote sensing, Mineralogy, Structural geology or 3D cartography. For a student focused on the lithosphere and the surface of the Earth, the options are 3D Mapping, Sequential Stratigraphy, Sedimentary Dynamics, Signal Processing, Experimental Sciences, Numerical Modeling, Analysis Methods, Magnetism and Gravity, Convection and Thermal of the Earth, Inverse Methods, Seismology, Remote Sensing, Mineralogy, Structural Geology... Finally, for a paleontologist and paleo-environmentalist profile, the options are as follows: Evolution and paleobiology, Systematics in paleo-biology, Biodiversity through geological time, Dating and correlation, Paleoclimatology, Biosignatures, Oceanography, Sequential stratigraphy, Sedimentary dynamics, Signal processing, Experimental sciences, Analysis methods, Remote sensing, Mineralogy... The second semester of M1 ends with a research internship of at least 8 weeks (12 weeks minimum for normalien students) in a research laboratory or research and development. An internship in a foreign laboratory is strongly recommended.

In the 2nd year of the master's degree, the 1st semester focuses on a high-level specialized teaching. The 2nd semester is entirely dedicated to a laboratory research internship. The teachings of the 1st semester are of an advanced level of expertise. A student wishing to specialize in paleontology, for example, will be able to follow the following specialty courses: Paleo-evolutionary biology, Imaging of primitive life, Paleobiogeography and Macro-ecology, Field of study of environments, Field of paleontological excavations, Retraction organisms and Ocean, applied sedimentology, Environmental geochemistry... A student wishing to specialize in the study of the surface and the earth's lithosphere will be able to follow the following specialty courses: Advanced Petrology, Expert-level terrain in the Mont Blanc massif, Fluid/rock interactions, Micro-analyses in situ, from the seismic source to the signature of earthquakes in the landscape, Physical geomorphology.... Finally, a student wishing to specialize in planetology in the sense of the internal dynamics or surface of the planets will be able to follow the following specialty courses: Dynamics of the core and mantle, Imaging of the Deep Earth, Physical volcanology, Habitable worlds and exobiology, Space exploration of the solar system, from the seismic source to the signature of earthquakes in the landscape, Physical geomorphology, fluid/rock interactions, in situ micro-analyses...