

Master in Branch Applied Geology

Specialty Water Resources Management and Geosciences

Brief

The goal of this Master's program is to provide a multidisciplinary education on issues related to continental wetlands to prepare students for a career as a researcher or specialist at the highest levels in earth sciences focused on water resource management and environmental management. The evolution of water resources (surface or subsurface), their links to climate variability, quality preservation, rational use, and water-health relationships are a few topics covered in training that need a multidisciplinary approach. This training provides specialization in the fields of water and the environment. The goal of this master's degree is to teach people how to manage water resources in terms of quality and quantity and how to work in teams with people from different fields. It prepares students to enter the professional world as responsible actors.

The Khemis Miliana region is rich in hydraulic infrastructure (dams, purification stations, irrigation perimeters, pumping stations, etc.). These logistics may provide significant educational support to students. She functions as an open-air laboratory.

Field	Branch	Specialty
<i>Earth and Universe Sciences</i>	Applied Geology	<i>Water Resources Management and Geosciences</i>

First Semester

Teaching unit	Matter	Credit	Coefficient	C	TD	TP	Volume (hour)
Fundamental Unit	Chemical water and analysis Technics	6	3	1h30	1h30	1h30	67h5
	Fluid Mechanics	4	2	1h30	1h30		45h00
	General hydrogeology	4	2	1h30	1h30		45h00
	Hydrology et climatology	4	2	1h30	1h30		45h00
Methodological unit	Sig and Spatial Analysis	4	2	1h30		1h30	45h00
	Capture technics of underground water	4	2	1h30	1h30		45h00
	Pollution	1	1	1h30			22h5
Discovery unit	Statistics	2	2	1h30	1h30		45h00
Transversal Unit	Technical English	1	1	1h30	1h30		45h00

Second Semester 2

Teaching unit	Matter	Credit	Coefficient	Courses	TD	Practical Work	Volume (hour)
Fundamental Unit	Hydrochemical and isotopic methods	6	3	1h30	1h30	1h30	67h5
	General hydrolics	4	2	1h30	1h30		45h00
	Hydrology and modeling	4	2	1h30	1h30		45h00
	Hydrogeology et flow modeling	4	2	1h30	-	1h30	45h00
Methodological unit	Eco-pedology	2	4	1h30		1h30	45h00
	Applied remote sensing	2	4	1h30	1h30		45h00
	Environmental geophysics	1	1	1h30			22h5
Discovery unit	Topography	2	2	1h30	1h30		45h00
Transversal Unit	Basics of Environmental Science	1	1	1h30			22h30

Third Semester

Teaching unit	Matter	Credit	Coefficient	C	TD	TP	Volume (hour)
	Geostatic and data analysis	6	3	1h30	1h30	1h30	67.5
Fundamental Unit	Management water methods	4	2	1h30	1h30		45h00
	Pollution and protection of water table	4	2	1h30	1h30		45h00
	Environmental impact assessment	4	2	1h30	1h30		45h00
Methodological unit	Water and soil conservation	2	4	1h30		1h30	45h00
	Thematic mapping	2	4	1h30		1h00	45h00
	River and Dam Management	1	1	1h30			22h30
Discovery unit	Geomorphology	1	1	1h30			22h30
	Hazard management and environnement protection	1	1	1h30			22h30
Transversal Unit	Water law	1	1	1h30			22h30

Semester 4

Internship in a company sanctioned by a thesis and a defense.

	VHS	Coeff	Crédits
Personal Work	280	9	18
Internship in a company	280	08	12
Seminars			
Other (Supervision)			
Total Semester 4	560	17	30