

Master Sciences de la Terre et des planètes, environnement Geosciences (UFAZ) (délocalisé en Azerbaïdjan)

Présentation

Le changement climatique, la gestion des risques naturels, le développement des énergies décarbonées pour la transition énergétique, la recherche et la gestion de la ressource en eau, la lutte contre les pollutions, la caractérisation du sous-sol préalable à toute installation d'infrastructure... ouvrent de nombreuses perspectives d'emploi aux diplômés en master des sciences de la Terre et de l'environnement pour les prochaines décennies.

Le master mention STPE de Strasbourg propose trois parcours centrés sur les problématiques environnementales ouvert à l'alternance (ISIE), l'utilisation des géosciences pour la transition énergétique (GeOT), et un parcours qui vise des métiers en lien avec une compréhension globale du système Terre, les risques naturels et les ressources minérales (GDT). Le parcours recherche pour les ingénieurs est ouvert aux élèves ingénieurs. Le parcours Geosciences (UFAZ) est délocalisé en Azerbaïdjan.

Objectifs

Ce parcours est proposé exclusivement dans le cadre de l'UFAZ ([Université franco-azerbaïdjanaise](#)) et est entièrement délocalisé à Bakou.

This two-year program, proposed exclusively within the framework of the French-Azerbaijani University (UFAZ), specializes in Geosciences, with an emphasis on the modeling of physical and chemical processes within the Earth. Optional courses in the second year enable to specialize either in the field natural georesources (oil, gas, mining) or in advanced numerical modeling including the latest AI technologies applied to the earth sciences. It is piloted by Ecole et Observatoire des Sciences de la Terre of Strasbourg University (France), in collaboration with the University of Rennes-1.

The program combines training in advanced aspects of Geology, Geophysics, and Geochemistry requiring a strong background in Mathematics, Physics, and Computer Programming. This training is provided by seasoned Professors and Assistant Professors from Strasbourg and Rennes-1 Universities and supplemented by specialist courses by professionals and experts.

Métiers visés

Pour connaître en détail l'insertion professionnelle de nos diplômés, consultez [cette page](#).

Candidater

Azerbaijani applicants:

See [application process and entrance exam details here](#).

International applicants :

We can accept at most 8 international students per year into the UFAZ Master's program (which has 3 specialties, one of which is Geoscience), and the tuition fee for international students is 5000 \$. The program is taken exclusively at the Baku UFAZ campus (two completely renovated buildings within walking distance of the city center). International students will be offered [accommodation here](#) unless they wish to make their own plans for accommodation. The deadlines for international applications have not yet been finalised. The application process will be on the basis of a written application complete with CV, cover letter, grades from bachelor program etc. There may also be an interview. Please take a look at the [equivalent process for the UFAZ bachelor program here](#). You may use the contact address on that page to let the UFAZ administration know you would be interested in applying and are waiting for the procedure for international applicants to be published to send in your application.

Composante	École et observatoire des sciences de la Terre (EOST)
Langues d'enseignement	Anglais
Niveau d'entrée	BAC +3
Durée	2 ans
ECTS	120
Formation à distance	Non, uniquement en présentiel
Régime d'études	FI (Formation initiale)
Niveau RNCP	Niveau 7
RNCP	RNCP39700 : Master Sciences de la Terre et des planètes, environnement
Lieu	Bakou - Azerbaïdjan
Campus	Campus Bakou
Formation internationale	Formation ayant des partenariats formalisés à l'international
Lieu(x) à l'étranger	Bakou - Azerbaïdjan
Secteurs d'activité	Recherche-développement en sciences physiques et naturelles Autres activités spécialisées, scientifiques et techniques
Code ROME	Géologue
Stage	Oui
Alternance	Non

Contacts

Responsable(s) de parcours

- [Damien Lemarchand](#)
- [Alessia Maggi](#)

Autres contacts

[UFAZ Education Departement](#)

Prérequis obligatoires

We are looking for students with a strong work-ethic, who are able to learn complex information quickly and use their knowledge to solve previously unseen problems. The ideal applicant will have bachelor level training in :

- Physics (continuum mechanics, fluid mechanics, wave propagation in elastic media, electromagnetic phenomena, potential fields);
- Geology (stratigraphy, plate tectonics, mineralogy, petrology, sedimentology);
- Chemistry (architecture and transformation of matter, chemical equilibria, the thermodynamics of chemical reactions).

Previous experience in laboratory experiments, geological and geophysical field-work, and computer programming in Python will be an advantage.

Programme des enseignements

Geosciences (UFAZ) (délocalisé en Azerbaïdjan)

Master 1 - Sciences de la Terre et des planètes, environnement - Geosciences (UFAZ)

Geosciences (UFAZ) - S1				
	CM	TD	TP	CI
Geology and georesources 1 12 ECTS	77h	19h	-	-
Geology of the world	24h	-	-	-
Geological deformations	24h	-	-	-
Reservoir modelling 1	14h	10h	-	-
Mineral resources 1	15h	9h	-	-
Transversal tools 6 ECTS	16,5h	13,5h	9h	15h
Applied programming in Python	12h	9h	9h	-
Writing in the sciences	4,5h	4,5h	-	-
Communication & Management	-	-	-	15h
Data analysis and modeling 1 12 ECTS	24h	48h	-	48h
Signal processing	10h	14h	-	-
Inverse methods	10h	14h	-	-
Potential field methods	-	-	-	24h
Seismic methods	-	-	-	24h
Geographical information systems	4h	20h	-	-

Geosciences (UFAZ) - S2				
	CM	TD	TP	CI
Geology and georesources 2 9 ECTS	29,5h	26h	-	-
Seismic stratigraphy, well log analysis	14h	10h	-	-
Reservoir modelling 2	14h	10h	-	-
Research Project	1,5h	6h	-	-
Hydrosystems 9 ECTS	19,5h	4,5h	-	48h
Groundwater flow modeling	-	-	-	24h
Environmental geosciences	19,5h	4,5h	-	-
Geochemical modeling 1	-	-	-	24h
Data analysis and modeling 2 12 ECTS	-	-	30h	72h
Methods of numerical modeling	-	-	-	48h
Geophysical fieldwork	-	-	30h	-
Geophysical modelling	-	-	-	24h

Master 2 - Sciences de la Terre et des planètes, environnement - Geosciences (UFAZ)

M2S3 - Geosciences (UFAZ)					
		CM	TD	TP	CI
Fluid and mineral resources	12 ECTS	15h	9h	-	48h
Petrophysics		-	-	-	24h
Geochemical modeling 2		-	-	-	24h
Mineral resources 2		15h	9h	-	-
Reservoir modelling 3		15h	9h	-	-
Geological structures characterization	9 ECTS	-	-	30h	48h
Geological case studies		-	-	-	24h
Geological fieldwork		-	-	30h	-
Large scale seismic imaging		-	-	-	24h
Data analysis and modeling 3	9 ECTS	18h	20h	-	48h
Satellite data and applications		12h	12h	-	-
Geoscience software		-	-	-	24h
Machine learning in the geosciences		-	-	-	24h

M2S4 - Geosciences (UFAZ)					
		CM	TD	TP	CI
Internship	30 ECTS	-	-	-	-
Research or industry internship		-	-	-	-