Université de Strasbourg

Sciences, Technologies, Santé | 2025-2026

DIPLÔME NATIONAL DE LICENCE CONTRÔLÉ PAR L'ÉTAT

Licence Sciences de la Terre

Geology, geophysics, georesources (UFAZ) (délocalisé en Azerbaïdjan)

Présentation

Les Sciences de la Terre sont au cœur de nombreux défis qui conditionnent notre avenir. On peut citer les changements globaux, la gestion des risques naturels (séismes, volcans, glissements de terrain, inondations, érosion du littoral, ...), le développement des énergies décarbonées pour la transition énergétique (mines, géothermie, stockage souterrain, ...), la recherche et la gestion de l'eau, la lutte contre les pollutions, la caractérisation du sous-sol préalable à toute installation d'infrastructure, ... Toutes ces problématiques peuvent être abordées via les Sciences de la Terre, en faisant appel à des spécialistes différents.

La licence mention Sciences de la Terre est la première étape de formation de ces futurs spécialistes aux profils très variés. Ces trois années sont un premier pas dans les études supérieures pour de nombreux étudiants et une étape importante de la construction de leur projet professionnel. Elles constitueront le socle de connaissances pour le champ disciplinaire concerné.

3 parcours sont proposés en licence sciences de la Terre :

- le parcours 'Sciences de la Terre, de l'Univers et de l'environnement (STUE),

- à partir de la L2, le parcours Santé pour les étudiants ayant obtenu une 1ère année de licence pour la santé avec un parcours 'Sciences de la Terre'.

- le parcours 'Geology, geophysics, georesources' délivré à l'Université Franco Azerbaijanaise de Bakou.

De plus, la licence Sciences de la Terre permet une double licence Physique - Sciences de la terre. Consultez les informations spécifiques à cette formation pour plus d'informations.

Objectifs

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

This four-year undergraduate program, proposed exclusively in the context of the French-Azerbaijani University (UFAZ), specializes in Geosciences with an emphasis on Geology and Geophysics and a focus on the resources of the Earth (Georesources). It is piloted by Ecole et Observatoire des Sciences de la Terre in Strasbourg, France, which runs Bachelor and Masters programs in the Geosciences and also runs France's top Geophysics engineering school catering to carbon-based and geothermal energy companies and their service companies as well as to companies specializing in geotechnical and hydrological problems.

The UFAZ program combines training in the fundamental aspects of Geology, Geophysics, and Geochemistry with a strong background in Mathematics, Physics, and Computer Programming. This training is provided by seasoned Professors and Assistant Professors from Strasbourg University and supplemented by specialist courses by international and Azerbaijani professionals and experts.

Education modalities include lectures, guided exercises, practical work in the laboratory, and practical work in the field. Most of the teaching is face-to-face, but some classes may be partially or totally delivered online in case of travel difficulties for the professors (e.g. COVID test).

Composante	• École et observatoire des sciences de la Terre (EOST)
Langues d'enseignement	• Anglais
ECTS	180
Formation à distance	Non, uniquement en présentiel
Régime d'études	• FI (Formation initiale)
Niveau RNCP	Niveau 6
RNCP	• RNCP39518 : Licence Sciences de la Terre
Lieu	Bakou - Azerbaijan
Campus	• Campus Bakou
Formation internationale	Formation ayant des partenariats formalisés à l'international
Lieu(x) à l'étranger	Bakou - Azerbaijan
Secteurs d'activité	• Recherche-développement en sciences physiques et naturelles
Code ROME	• Géologue
Stage	Oui
Alternance	Non

Contacts

Responsable(s) de parcours

- Guilherme Bozetti
- Alessia Maggi

Autres contacts

UFAZ Education Department

We are looking to recruit students who have strong skills in Mathematics, Physics, and English, and who are hard-working, dedicated to their studies, and adaptable.

Candidater

For Azerbaijani citizens currently resident in Azerbaijan, UFAZ runs an entrance exam in the summer (June – August). The exam is open to students from

group 1 who obtained over 500 points during the State Examination organized by the State Examination Center (SEC). For more details about the exam and the number of governmental (non-fee-paying) places available, please visit the UFAZ Undergraduate Admissions webpage.

All other candidates are considered international applicants by UFAZ. The application procedure and tuition fees for such students are detailed on theUFAZ International Undergraduate Admissions webpage.

Prérequis obligatoires

Pre-requesites for students of this speciality:

- Having strong skills in maths and physics;
- Having strong language skills (specifically in English);
- Being hard-working;
- Being dedicated;
- Being adaptable.

Programme des enseignements

Geology, geophysics, georesources (UFAZ) (délocalisé en Azerbaïdjan)

L0 - Sciences de la Terre - Geology, geophysics, georesources (UFAZ)

L0 - 1st semester

		CM	TD	TP	CI
Basic Mathematics 1	6 ECTS	1,5h	4,5h	-	42h
Basic Maths 1		-	-	-	42h
Working Methodology - Basic Maths 1		1,5h	4,5h	-	-
Basic Physics 1	6 ECTS	3h	3h	-	39h
Basic Physics 1		-	-	-	39h
Working methodology - Basic Physics 1		3h	3h	-	-
Basic Chemistry 1	6 ECTS	3h	3h	-	42h
Basic Chemistry 1		-	-	-	42h
Working methodology - Basic Chemistry 1		3h	3h	-	-
Introduction to Computer Science 1	6 ECTS	-	6h	21h	33h
System, Algorithms and Programming 1		-	-	21h	33h
Working methodology - Intro to Computer Sciences 1		-	6h	-	-
Languages 01	6 ECTS	-	60h	-	-
English or French		-	60h	-	-

L0 - 2nd semester

		CM	TD	TP	CI
Basic Mathematics 2	7 ECTS	20h	60h	-	-
Algebra, Probability, Statistics		10h	30h	-	-
Analysis		10h	30h	-	-
Basic Physics 2	6 ECTS	13,5h	-	21h	25,5h
Basic Physics 2		13,5h	-	21h	25,5h
Basic Chemistry 2	6 ECTS	13,5h	-	21h	27h
Basic Chemistry 2		13,5h	-	21h	27h
Introduction to Computer Sciences 2	6 ECTS	-	24h	21h	15h
Systems, Algorithms and Programming 2		-	24h	21h	15h
Basic Geosciences	2 ECTS	13,5h	7,5h	3h	-
Introduction to Geosciences		12h	3h	3h	-
Working methodology		1,5h	4,5h	-	-
Languages 02	3 ECTS	-	30h	-	-
English or French		-	30h	-	-

L1S1 - Geology, Geophysics, Georesources (UFAZ)

		CM	TD	TP	CI
Mathematics 1	6 ECTS	28h	28h	-	-
Mathematics 1		28h	28h	-	-
Physics 1	8 ECTS	42h	42h	-	-
Point mechanics		12h	12h	-	-
Fluid mechanics		6h	6h	-	-
Thermodynamics 1		12h	12h	-	-
Electrostatics		12h	12h	-	-
Chemistry 1	4 ECTS	24h	24h	-	-
Architecture of matter 1		12h	12h	-	-
Transformation of matter 1		12h	12h	-	-
Computer sciences 1	3 ECTS	9h	-	21h	-
Computer Science for Physics and Chemistry		9h	-	21h	-
Geosciences 1	6 ECTS	30h	12h	-	21h
Internal envelopes		18h	3h	-	-
External envelopes		-	-	-	21h
Introduction to Georessources		12h	9h	-	-
Language 1	3 ECTS	-	30h	-	-
English or French		-	30h	-	-

L1S2 - Geology, Geophysics, Georesources (UFAZ)

		CM	TD	TP	CI
Mathematics 2	6 ECTS	28h	28h	-	-
Mathematics 2		28h	28h	-	-
Physics 2	6 ECTS	18h	18h	36h	-
Oscillators, Waves, Optics		18h	18h	-	-
Physics Lab 1		-	-	36h	-
Chemistry 2	6 ECTS	30h	30h	-	-
Architecture of matter 2		15h	15h	-	-
Transformation of matter 2		15h	15h	-	-
Geosciences 2	9 ECTS	33h	15h	27h	21h
Gravimetry and isostasy		-	-	-	21h
Plate tectonics		12h	9h	-	-
Mineralogy & Petrology		21h	-	16,5h	-
Language 2	3 ECTS	-	30h	-	-

	CM	TD	TP	CI
English or French	-	30h	-	-

Licence 2 - Sciences de la Terre - Geology, geophysics, georesources (UFAZ)

L2S3 - Geology, Geophysics, Georesources (UFAZ)

	CM	TD	TP	CI
Mathematics 3 5 ECTS	20h	34h	-	-
Mathematics 3	20h	34h	-	-
Physics 3 8 ECTS	42h	42h	-	-
Electromagnetism	18h	18h	-	-
Thermodynamics 2	12h	12h	-	-
Solid mechanics GGG	12h	12h	-	-
Geology 1 14 ECTS	82,5h	25,5h	21h	-
Sedimentology	9h	-	4,5h	-
Depositional environments	12h	6h	4,5h	-
Cartography and GIS	12h	-	12h	-
Structural geology	12h	9h	-	-
Basin analysis and sequence stratigraphy	19,5h	4,5h	-	-
Principles of geochemistry	18h	6h	-	-
Language 3 3 ECTS	-	30h	-	-
English or French	-	30h	-	-

L2S4 - Geology, Geophysics, Georesources (UFAZ)

	CM	TD	TP	CI
Mathematics 4 5 ECTS	20h	32h	-	-
Mathematics 4	20h	32h	-	-
Physics 4 7 ECTS	24h	30h	24h	-
Fluid mechanics 2	12h	18h	-	-
Electronics	12h	12h	-	-
Physics Lab 2	-	-	24h	-
Geology 2 3 ECTS	1,5h	6h	30h	-
Geology fieldwork	1,5h	6h	30h	-
Geophysics 1 6 ECTS	18h	6h	-	48h
Signal processing	-	-	-	24h
Seismology and seismics	-	-	-	24h
Well characterization and logging	18h	6h	-	-
Language 4 3 ECTS	-	30h	-	-

		CM	TD	TP	CI
English or French		-	30h	-	-
Professional preparation 1	3 ECTS	-	30h	-	-
Soft skills		-	30h	-	-
Student-led project	3 ECTS	-	6h	-	-
Student-led project		-	6h	-	-

Licence 3 - Sciences de la Terre - Geology, geophysics, georesources (UFAZ)

L3S5 - Geology, Geophysics, Georesources (UFAZ)

		CM	TD	TP	CI
Mathematics 5	3 ECTS	-	-	-	30h
Ordinary and partial differential equations		-	-	-	30h
Physics 5	3 ECTS	36h	36h	9h	-
Fluid mechanics in soils		12h	12h	9h	-
Geophysics 2a	6 ECTS	-	-	-	69h
Earth rheology		-	-	-	24h
Inverse methods		-	-	-	24h
Remote sensing		10,5h	-	6h	-
Geophysics 2b	8 ECTS	27h	6h	30h	21h
Seismic acquisition and processing		24h	-	-	-
Near surface geophysics		-	-	-	21h
Geophysics fieldwork		3h	6h	30h	-
Geology 2	4 ECTS	30h	-	12h	-
Geology of Azerbaidjan		24h	-	-	-
Introduction to PETREL		6h	-	12h	-
Language 5	3 ECTS	-	30h	-	-
English or French		-	30h	-	-
Professional preparation 2	3 ECTS	-	36h	-	-
Scientific writing		-	36h	-	-

L3S6 - Geology, Geophysics, Georesources (UFAZ)

		CM	TD	TP	CI
Georesources	12 ECTS	14h	-	6h	93h
Mineral resources		-	-	-	24h
Oil and gas resources		14h	-	6h	-
Water resources		-	-	-	24h
Energy transition and geothermal energy		-	-	-	24h

	CM	TD	TP	CI
Geochemistry 2	-	-	-	21h
Professional preparation 3 3 ECTS	-	30h	-	-
Management and entrepreneurship	-	30h	-	-
Internship 15 ECTS	-	-	-	-
Internship (8 weeks)	4,5h	-	-	-