



# Licence Chimie

## Physical Chemistry (UFAZ) (délocalisé en Azerbaïdjan)

### Présentation

[Fiche RNCP de la Licence de CHIMIE](#)

La licence mention Chimie permet l'acquisition des bases en chimie organique, chimie inorganique, chimie physique et analytique ainsi que de solides aptitudes aux techniques expérimentales. L'utilisation de méthodes pédagogiques innovantes basées sur des projets tuteurés, des enseignements dits d'ouverture et une part importante de travaux pratiques permettent à l'étudiant d'acquérir une grande autonomie dans ses apprentissages (apprendre en faisant). Des stages en milieu professionnel et en laboratoire de recherche occupent aussi une large part dans la formation. Un accent particulier est mis sur l'enseignement de l'anglais disciplinaire, indispensable à tout scientifique.

### Objectifs

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

The diploma of Bachelor in Chemical Engineering aims to ensure a high-level training adapted to the challenges and evolutions in the chemical industries. By gradually introducing basic skills, the study program teaches students fundamental scientific knowledge (mathematics, chemistry, physics), as well as how to use this knowledge in various areas related to the chemistry and chemical engineering (conception, scaling of processes for production, analytical chemistry, quality control), while ensuring security rules of processes and environmental quality.

*Such training plays a twofold role by providing theoretical and practical knowledge, as well as working methods to analyze, synthesize scientific and/or bibliographic data. The program provides also knowledge and skills on the environment and the company's culture.*

Composante	<ul style="list-style-type: none"> <li>Faculté de chimie</li> </ul>
Langues d'enseignement	<ul style="list-style-type: none"> <li>Anglais</li> </ul>
Durée	4 ans
Formation à distance	Non, uniquement en présentiel
Régime d'études	<ul style="list-style-type: none"> <li>FI (Formation initiale)</li> </ul>
Niveau RNCP	Niveau 6
RNCP	<ul style="list-style-type: none"> <li>RNCP38701 : Licence Chimie</li> </ul>
Formation internationale	Formation ayant des partenariats formalisés à l'international
Lieu(x) à l'étranger	Bakou - Azerbaïdjan
Stage	Non prévu
Stage à l'étranger	Non prévu
Alternance	Non

# Programme des enseignements

## Physical Chemistry (UFAZ) (délocalisé en Azerbaïdjan)

Licence Chimie - Physical Chemistry (UFAZ) - L0

Semester 01					
		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	-	-

Semester 02					
		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
Languages 02	3 ECTS	-	30h	-	-
English or French		-	30h	-	-
Basic Geosciences	2 ECTS	13,5h	7,5h	3h	-
Introduction to Geosciences		12h	3h	3h	-
Working methodology		1,5h	4,5h	-	-

Semester 1					
		CM	TD	TP	CI
Chemical Engineering 1	4 ECTS	-	-	15h	21h
Introduction to Chemical Engineering		-	-	-	21h
Chemical. Engineering. Lab 1 (Physics)		-	-	15h	-
Language 1	3 ECTS	-	30h	-	-
English or French		-	30h	-	-
Mathematics 1	6 ECTS	28h	28h	-	-
Mathematics 1		28h	28h	-	-
Computer science 1	3 ECTS	9h	-	21h	-
Computer Science for Physics and Chemistry		9h	-	21h	-
Chemistry 1	6 ECTS	24h	24h	21h	-
Architecture of matter 1		12h	12h	-	-
Transformation of matter 1		12h	12h	-	-
Chemistry Lab 1		-	-	21h	-

Semester 2					
		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	9 ECTS	30h	30h	30h	-
Architecture of matter 2		15h	15h	-	-
Transformation of matter 2		15h	15h	-	-
Chemistry lab 2		-	-	30h	-
Chemical Engineering 2	6 ECTS	-	-	-	57h
Heat transfer		-	-	-	21h
Process diagram		-	-	-	15h
Material science for Chemical Engineering		-	-	-	21h
Language 2	3 ECTS	-	30h	-	-
English or French		-	30h	-	-

Semester 3					
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		CM	TD	TP	CI
Mathematics 3	5 ECTS	20h	34h	-	-
Mathematics 3		20h	34h	-	-
Chemistry 3	9 ECTS	30h	30h	36h	-
Reactivity 1 (industrial chem)		15h	15h	-	-
Thermodynamics and kinetics		15h	15h	-	-
Chemistry Lab 3		-	-	36h	-
Language 3	3 ECTS	-	30h	-	-
English or French		-	30h	-	-
Physics 3	5 ECTS	24h	24h	-	-
Electricity for CS and CE		12h	12h	-	-
Thermodynamics 2		12h	12h	-	-
Physical and molecular Chemistry 1	8 ECTS	-	-	20h	63h
Scientific Instrumentation signal and data processing		-	-	20h	21h
Molecular Dynamics/ Cheminfo		-	-	-	21h

<b>Semester 4</b>					
		CM	TD	TP	CI
Mathematics 4	5 ECTS	20h	32h	-	-
Mathematics 4		20h	32h	-	-
Physics 4	3 ECTS	12h	18h	-	-
Fluid mechanics 2		12h	18h	-	-
Language 4	3 ECTS	-	30h	-	-
English or French		-	30h	-	-
Physical Chemistry 2	7 ECTS	-	-	36h	42h
Quantum Chemistry		-	-	-	21h
Chemical Bond and Spectroscopy symmetry		-	-	-	21h
Chem lab 5		-	-	36h	-
Chemistry 4	9 ECTS	30h	30h	36h	-
Reactivity 2 (inorganic)		15h	15h	-	-
Spectroscopies and electrochemistry		15h	15h	-	-
Chemistry Lab 4		-	-	36h	-
Professional preparation 1	3 ECTS	-	30h	-	-
Soft skills		-	30h	-	-

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<b>Semester 5</b>					
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		CM	TD	TP	CI
Mathematics 5	3 ECTS	-	-	-	30h
Ordinary and partial differential equations		-	-	-	30h
Physical Chemistry	11 ECTS	-	-	30h	75h
Spectroscopy		-	-	-	-
Catalysis and environment		-	-	-	-
Molecular chemistry 2		-	-	-	-
Chem Project		-	-	-	-
Phys Chem Lab		-	-	-	-
Physical Chemistry 5	10 ECTS	-	-	30h	69h
Polymers and formulation		-	-	-	24h
Analytical chemistry		-	-	-	24h
Experimental chemistry 5		-	-	30h	-
Applied Chemistry		-	-	-	21h
Language 5	3 ECTS	-	30h	-	-
English or French		-	30h	-	-
Professional preparation 2	3 ECTS	-	36h	-	-
Scientific writing		-	36h	-	-

<b>Semester 6</b>					
		CM	TD	TP	CI
Chemistry 6	3 ECTS	3h	-	27h	-
Chemistry project		3h	-	27h	-
Physical Chemistry 3	9 ECTS	-	12h	-	42h
Analytical Chemistry 2		-	-	30h	21h
Electrochemistry 2		-	12h	-	21h
Internship	15 ECTS	-	-	-	-
Internship (8 weeks)		4,5h	-	-	-
Professional preparation 3	3 ECTS	-	30h	-	-
Management and entrepreneurship		-	30h	-	-