



People's Democratic Republic of Algeria  
Ministry of Higher Education and Scientific Research  
Sétif 1 University – Ferhat Abbas

**Faculty: Sciences**

**Bachelor: Fundamental Chemistry**

**Objectives of License:**

- The fundamental chemistry degree aims to train future chemists and make them able to adapt to the different multidisciplinary orientations of chemistry, and allow them access to many sectors of professional activities.
- Know and master the fundamental concepts, methodological and technical tools in chemistry
- Develop the reflection, mobility and initiative necessary both in the field of fundamental research and in that of applied research.

**Admission requirements:**

Access to this field is particularly for students with a Bac science, having validated the first-year common core. Students are assigned to chemistry field according to their classification results.

**Career Prospects/Professions:**

- **Industry**
  - Chemical industry
  - Petrochemical industry
  - Pharmaceutical industry;
- **Research**
  - Research laboratories
  - Research centres
  - Analysis and control laboratories
- **Further study**
  - Masters in environmental chemistry
  - Masters in physical chemistry
  - Master in pharmaceutical chemistry
  - Master chemistry Analytics and analysis

**Organization of Studies and Official Duration of the Program:**

Specialty courses cover four semesters (S3, S4 and S5, S6). it grouped into four educational units: fundamental, methodological, discovery and Transversal

**Training Canvas:**

- Mineral chemistry
- Organic Chemistry
- Analytical Chemistry
- Quantum chemistry
- Inorganic chemistry
- Environmental chemistry

**Semester 05:**

- Organic Chemistry III
- Analytical chemistry II
- Crystallography
- Chimie Quantique II
- Materials chemistry or
- Macromolecular chemistry or
- Environmental chemistry or
- Therapeutic chemistry or Bio-organic chemistry
- scientific English I

**Semester 06:**

- Thermodynamics of solutions
- Electrochemistry
- Molecular spectroscopy
- Surface chemistry and catalysis
- Electrochemistry or physical methods of surface analysis
- Ethics and professional conduct
- scientific English II

**Curriculum Highlights:**

The **Chemistry** program in the **Fundamental Chemistry** degree provides a foundational education in chemistry while allowing students to deepen their knowledge in the field.

This program is designed for all students who require a strong chemistry background to pursue further studies. As such, it serves as an essential and indispensable pathway for future researchers specializing in various fields, including chemistry, biochemistry, pharmaceuticals, and more.

The **Fundamental Chemistry** bachelor's degree program aims to:

- Provide a **solid theoretical and practical foundation** in chemistry, enabling students to transition into various Chemistry-related Master's programs.
- Allow for **progressive specialization** by offering differentiated academic tracks at the end of the second year, leading to different third-year (L3) degree options.

<p><b>Advanced training modules:</b></p> <ul style="list-style-type: none"> <li>• Thermodynamics of solutions</li> <li>• Electrochemistry</li> <li>• Molecular spectroscopy</li> <li>• Surface chemistry and catalysis</li> <li>• Electrochemistry or physical methods of surface analysis</li> </ul> <p><b>Program Overview:</b></p> <p><b>Semester 03:</b></p> <ul style="list-style-type: none"> <li>• Mineral chemistry</li> <li>• Organic Chemistry I</li> <li>• Applied mathematics</li> <li>• Vibrations, Waves &amp; Optics</li> <li>• Numerical Methods and Programming</li> <li>• Physico-Chemical Analysis Techniques I</li> <li>• English</li> </ul> <p><b>Semester 04:</b></p> <ul style="list-style-type: none"> <li>• Organic Chemistry II</li> <li>• Thermodynamics &amp; Chemical Kinetics</li> <li>• Analytical Chemistry</li> <li>• Quantum chemistry</li> <li>• Inorganic chemistry</li> <li>• Physico-Chemical Analysis Techniques II</li> </ul>	<p><b>Admission Information:</b></p> <p>The current application of Articles 171 and 1023 of Decrees:</p> <ul style="list-style-type: none"> <li>• Skills and knowledge acquisition are assessed every six months through continuous assessment and a final exam.</li> <li>• Progress from the L2 level to L3 Level is automatic if the student has completed the two semesters S3 and S4 of the training program.</li> <li>• The student's assessment focuses on, depending on the training program: lectures, practical work, tutorials, and practical internships.</li> </ul> <p><b>Language of instruction:</b></p> <p>French and English</p> <p><b>Training framework:</b></p> <p>The tables provided in the previous section "Program Overview"</p>
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