

Program Learning Outcomes

Chemical Physics

Knowledge-Based

1. Graduates will be able to master a broad set of chemical knowledge concerning the fundamentals in the basic areas of the discipline (organic, inorganic, analytical, physical and biological chemistry).
2. Graduates will be able to solve problems competently by identifying the essential parts of a problem and formulating a strategy for solving the problem. They will be able to rationally estimate the solution to a problem, apply appropriate techniques to arrive at a solution, test the correctness of the solution, and interpret their results.
3. Graduates will be able to use computers in data acquisition and processing and use available software as a tool in data analysis.
4. Graduates will be able to use modern library search tools to locate and retrieve scientific information about a topic, chemical, chemical technique, or an issue relating to chemistry.

Performance/Skills-Based

5. Graduates will be able to understand the objective of their chemical experiments, properly carry out the experiments, and appropriately record and analyze the results.
6. Graduates will be able to use standard laboratory equipment, modern instrumentation, and classical techniques to carry out experiments.
7. Graduates will know and follow the proper procedures and regulations for safe handling and use of chemicals.
8. Graduates will be able to communicate the concepts and results of their laboratory experiments through effective writing and oral communication skills.

Affective

9. Graduates will be able to successfully pursue their career objectives in advanced education in professional and/or graduate schools, in a scientific career in government or industry, in a teaching career in the school systems, or in a related career following graduation.