



After Graduation

Chemistry plays an essential role in many industries. A degree in Chemistry offers cross linking with the other fields of science, engineering, medicine, and policy making.

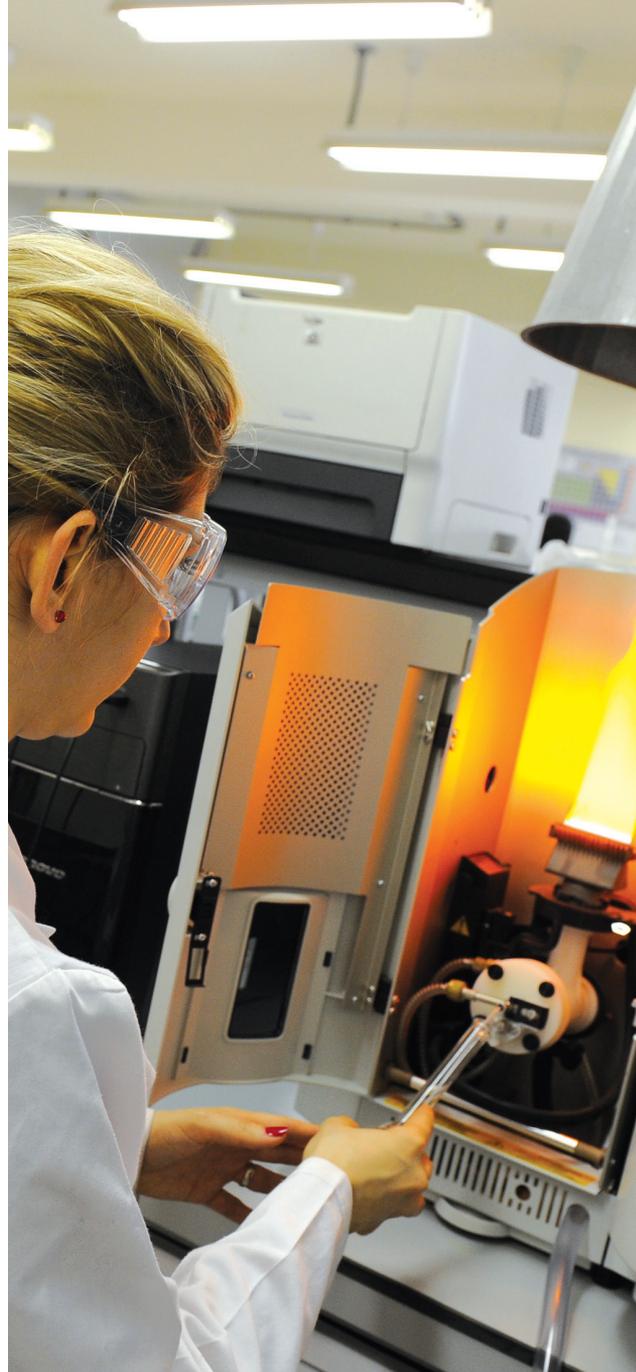
There are many options and industries that would appeal to Chemistry professionals. For example some of our graduates work with geologists in the prediction of the location of oil basins. Others are hired by large energy companies to help develop solar prototypes and energy efficient panels.

Some of our graduates work in the biomedical industry with pharmaceutical development, while others enter Engineering fields. Finally, Chemistry also opens up the option of entering the public sector and aiding policy and economic changes through Evidence Based Research.

To learn more about the Chemistry Department:

Web www.aub.edu.lb/fas/chemistry

Email chchair@aub.edu.lb



CHEMISTRY

Undergraduate Program

Natural Sciences

Chemistry plays a central role in a variety of important areas such as the industry, agriculture, biology, food technology, nutrition, pharmaceuticals, engineering, environmental science and medicine.

The undergraduate program provides our students with a strong theoretical background as well as a good practical training that prepares them to go into a variety of specializations, or continue their career as professional chemists.

Faculty of Arts and Sciences

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Sample Courses

CHEM 211

Organic Chemistry

An introduction to organic chemistry according to functional groups. The course covers synthesis, properties and reactions of aliphatic and aromatic hydrocarbons.

CHEM 215

Analytical Chemistry

The course covers fundamental analytical processes including solution equilibria, electrochemical theory and applications.

CHEM 217

Thermodynamics and Chemical Dynamics

This course covers the basic principles of chemical thermodynamics and chemical dynamics.

Nature's self-organizing patterns are all found around us from the stripes of a zebra to the intrinsic patterns on butterfly wings. Chemistry can offer the basic understanding of why nature chooses only some patterns despite the infinite possibility of choices.



With 14 different research ventures from the fulltime faculty members, students are exposed to a wealth of information extending from real life applications to complex theories.

Curriculum

While achieving the BS degree in Chemistry, the department delivers a strong theoretical course of study and practical training in the chemical science to assure the success of its students.

Throughout the three years, students are offered [courses and analytical training](#) within the fundamental areas of Chemistry.

Students begin their first year by building a strong base in Chemistry and Mathematics to help prepare them for their upcoming focused training.

During their second and third year, students concentrate on the four major areas of chemistry: [organic](#), [inorganic](#), [analytical](#) and [physical chemistry](#). Students will be disciplined in the essential facts, principles and theories within each of these areas.

Students approaching their final year have the opportunity to choose courses in advanced topics in chemistry based on their focus and their future goals and areas of interest.

Research Opportunities

Undergraduate students are welcomed to be a part of faculty members' research teams. By undertaking research opportunities students are exposed to the benefits of applied chemistry and they can see first hand how it is implemented in other fields.

Students can join research teams as extra curricular activities during their first two years, but upon their last year they are qualified to earn credit hours through the [Independent Study Course](#).

Current research projects include:

- [Solar Energy Conversions](#) developing new materials to enhance solar cell's energy efficiency.
- [Environmental Studies and Applications](#) research work includes: processes to remove pharmaceutical and personal care products from drinking water, measurement of air pollution from different environments such as traffic, diesel generator emission and tobacco smoke, and ways to treat waste water to produce electricity.
- [Biomedical Applications](#) working on biosensors for early disease diagnosis, as well as experimental products to produce novel drugs.



CHEM 231

Organic Synthesis

Experiments in multistep synthesis of organic compounds with an emphasis on methods used for synthesis and isolation.

CHEM 233

Topics in Physical Chemistry

The course covers a selection of topics in thermodynamics, advanced kinetics and techniques in physical chemistry analysis.

CHEM 228

Inorganic Chemistry

This course introduces the students to the field of inorganic chemistry. It covers atomic structure and chemical bonding, symmetry concepts and applications to inorganic compounds, group theory and classifications, molecular orbital theory, and solid-state chemistry.