

Chemistry

1. General Overview

Chemistry deals with the basic laws of the physical world and the composition and properties of matter. Advances in computer technology, pharmaceuticals, space exploration, and medicine all have roots in the chemical sciences. Demand for well-trained technicians and researchers is rising. Our program teaches a wide array of topics/courses with proper experimental practices. They include thermodynamics, quantum chemistry, molecular recognition sensor, molecular transformation, porous materials, nano-materials, instrumental analysis, measurement and treatment of atmospheric and water pollution, environmental chemistry, and protein biochemistry. As a result of active research efforts in the Department, Professor Kim Ja-Heon's team published an article in Science on the development of a porous material for hydrogen storage in 2010.

2. Educational Goals/Objectives

We teach students to be equipped with professional knowledge in chemistry and to be creative in their research efforts so that they acquire global competitiveness in the field. Our educational objectives can be summarized as follows:

- academic pursuit of professional knowledge
- professional education for practical application in industrial spheres
- support for interdisciplinary education
- scientific training for the general welfare of the society

3. Areas of Specialization and/or Course Titles

Physical Chemistry, Special Topics in Physical Chemistry, Quantum Chemistry, Introduction to Molecular Spectroscopy, Nanoscale Science and Technology, Physical Chemistry Lab, Organic Chemistry, Organic Synthesis, Molecular Structure Analysis, Physical Organic Chemistry, Organic Chemistry Lab, Analytical Chemistry, Instrumental Analysis, Analytical Chemistry Lab, Inorganic Chemistry, Inorganic Materials Chemistry, Inorganic Chemistry Lab, Biochemistry, Protein Biochemistry, Environmental Chemistry, Special Topics in Chemistry

4. Career Opportunities/Job Situation

- research fellow in pharmaceutical, polymer, and petrochemical research
- applied chemist in hospitals, chemical factories, and pharmaceutical, petrochemical and optical companies

5. Related Licenses

Chemistry Degree Accreditation, Engineer Waste Disposal, Engineer Hazardous Materials

Management, Engineer Chemical Analysis, etc.