



Analytical Chemistry is the branch of chemistry that deals with the separation, identification, and determination of the chemical components of natural and synthetic materials. Qualitative analysis in analytical chemistry provides an indication of the identity of the chemical species in a sample, while quantitative analysis determines the amount of specific components that make up the sample. The separation of components is often carried out as a primary step for analysis. In analytical chemistry, classical (wet) and instrumental analytical methods are researched, applied, and developed to identify substances and determine analyte quantities. The primary aim of the Analytical Chemistry Department is to educate students who possess sufficient theoretical and methodological knowledge to perform chemical and instrumental (spectrophotometric and chromatographic) analyses of inorganic and organic substances, including drugs, to apply validation studies, to acquire analytical thinking skills, to become internationally qualified scientists, and to generate ideas applicable to industry. Therefore, analytical chemistry education is primarily focused on explaining the theoretical aspects of chemical and instrumental methods, their application, method development, and problem-solving.

Research Areas:

- Developing various devices and methods based on the needs of science, technology, and clinics.
- Developing new methods for pharmaceutical raw materials.
- Developing and applying methods for the qualitative and quantitative analysis of natural or synthetic samples (such as pharmaceuticals, plant extracts, food samples).
- Conducting research in the fields of pharmaceuticals, environment, and health using molecular and atomic spectroscopic methods, such as trace element analysis and capacity determination of antioxidant substances.
- Conducting analytical validity (validation) studies for the developed methods.
- Green Analytical Chemistry applications.