



# School of Science Mae Fah Luang University

## Applied Chemistry

This programme emphasizes on the application of theories and principles in chemistry to various fields such as medicine, pharmacy, agriculture, material science, product quality assessment and quality control, etc.

### Natural Product Chemistry

Natural Products Chemistry programme emphasizes on the integrated organic chemistry educations by applying theoretical concepts to practical applications. The research theme includes (i) examination and identification of bioactive compounds extracted from domestic plants, (ii) synthesis and structural modification of bioactive compounds, (iii) study of biological activities of such compounds for medicinal, pharmaceutical, and agricultural applications, and (iv) study of volatile compounds from Thai aromatic plants.



### Polymer Science and Technology

The programme aims to study the application of chemical principles and techniques for the synthesis, characterization, processing, modification and functionalization of both synthetic and naturally occurring polymers, and the application of polymers in the manufacturing of various products such as medical and biodegradable materials, bioplastics and other modern technologies such as space technology and nanotechnology.



### Analytical Chemistry

Analytical Chemistry focuses on the basic and advanced analytical techniques. It includes the study of the analytical methods for analysing chemical composition both qualitatively and quantitatively, which could be applied in the analysis of chemical substances, both organic and inorganic. Analytical chemistry is essential to the scientific development of various fields such as environment, materials science, natural products, forensic, etc.



## Biosciences

This programme aims to study the biodiversity of living organisms with an expectation to utilise these bioresources in various applications including food and chemical industry, agriculture, alternative energy, and medicine.

### Biotechnology



Biotechnology is a field of applied biology involves the use of organisms; plants, animals and microorganisms, including their cell products such as protein, DNA, genes and genomes, enzymes and metabolites. The programme focuses on technology such as gene and protein technology, genetic engineering, tissue culture to maximize organisms reproduction, as well as bioprocess and industrial biotechnology, biomedical and bioremediation aspects.

### Applied Microbiology



Microorganisms (or microbes) are small living organisms that can be found in many habitats. They are useful in various applications of medicine and food industry. The students majoring in this field will study a wide range of topics of microorganism from fundamental to applied courses. The programme is also designed to strengthen the applied use of microbes in industry such as food fermentation, enzyme and chemical production, agricultural microbiology, and bioremediation.

### Agricultural Science



Agriculture has been important for both Thai livelihoods and economic security. Therefore, our Agricultural Science programme aims to produce the new-bred agriculturists capable to integrate technology such as soil, water, nutrient and pest management and, most importantly, crop varietal improvement using both conventional and biotechnological plant breeding, for increasing productivity of both small and industrial scale agricultures to meet national demand without environment impact.