UNIMAS
UNIVERSITI MALAYSIA SARAWAK

FACULTY OF
RESOURCE SCIENCE &
TECHNOLOGY

CHEMISTRY

POSTGRADUATE STUDIES @FRST, UNIMAS

Unlocking the secrets of matter, **chemistry research** explores the composition, structure, properties, and transformations of substances. From developing new materials and sustainable energy solutions to advancing drug discovery and environmental protection, chemistry lies at the heart of innovation. At the Faculty of Resource Science and Technology, UNIMAS, chemistry research spans organic, inorganic, analytical, physical, and environmental chemistry, addressing real-world challenges through impactful, interdisciplinary research. With modern laboratories and expert supervision, we empower students to create solutions that benefit both local communities and the global scientific community.

Community-Driven University For a Sustainable World

The field of chemistry

The **postgraduate chemistry program** at the Faculty of Resource Science and Technology, Universiti Malaysia Sarawak, offers advanced training and research opportunities in various fields of chemistry. The program is designed to develop skilled researchers capable of addressing scientific challenges related to natural resources, sustainability, and industrial applications. With access to modern laboratories and experienced academic staff, students engage in interdisciplinary research aligned with regional and global priorities. The program is offered through both Master's (by research) and PhD pathways.

Organic Chemistry

Organic chemistry is the study of the structure, properties, reactions, and synthesis of carbon-containing compounds. It plays a central role in the development of pharmaceuticals, agrochemicals, polymers, dyes, and biomolecules. Research in this field explores new synthetic methods, reaction mechanisms, and applications in medicinal and green chemistry.

Inorganic Chemistry

Inorganic chemistry focuses on compounds that are not based on carbon-hydrogen structures, including metals, minerals, and coordination complexes. It encompasses a wide range of applications such as catalysis, materials development, metal-organic frameworks, and bioinorganic chemistry. This field supports innovations in energy, nanotechnology, and environmental science.

Analytical Chemistry

Analytical chemistry is concerned with the separation, identification, and quantification of matter. It provides essential tools for monitoring product quality, environmental pollutants, food safety, and clinical diagnostics. Techniques such as chromatography, spectroscopy, and electrochemical analysis are key to this field.

Physical Chemistry

Physical chemistry combines principles of chemistry and physics to understand the behaviour of matter and energy at the molecular level. Topics include thermodynamics, kinetics, quantum chemistry, and molecular spectroscopy. This field supports the fundamental understanding of chemical systems and the design of new materials and processes.

Environmental Chemistry

Environmental chemistry examines the chemical composition and processes in natural systems, as well as the effects of pollutants on ecosystems. It involves studying air, water, soil, and waste to develop sustainable solutions for pollution control, remediation, and environmental protection. It is crucial for addressing global environmental challenges.

Natural Product Chemistry

Natural product chemistry focuses on the discovery, isolation, structural elucidation, and modification of bioactive compounds from natural sources such as plants, microbes, and marine organisms. This field contributes to drug development, cosmetics, nutraceuticals, and agricultural products, often bridging traditional knowledge with modern science.

Explore the wonders of modern chemistry

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Chemistry Experts at Your Service

Join us to discover exciting **scientific breakthroughs** in the field of chemistry

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