

What is Chemistry?

Chemistry is the study, understanding and analysis of atoms and molecules, and how they interact.

The theory of Chemistry is developed around the principles of physics and mathematics. Its application lies in all living and non-living systems, many of which are not yet understood at the atomic and molecular level. Understanding of events at the atomic and molecular level has in recent years led to the novel concepts of biotechnology and nanotechnology.

An improved understanding of materials has led to advances in catalysts, semi-conductors, and photo-voltaic cells. Biologically active compounds allow us to control pests, malaria, AIDS, and cancer.

What do chemists do?

Chemists are not restricted to the laboratory and work in many areas, such as:

- Production/manufacturing as an industrial chemist
- Technical services, assisting people who use products
- Marketing and sales, on a national and international level
- Management, including corporate planning
- Some chemists prefer self-employment through small business or consulting firms.
- Some chemists play a role in monitoring the effects of industry on the fragile environment.

There are also many chemists who make an invaluable contribution through laboratory work. They do:

- Analyses in analytical and research laboratories
- Basic and applied research, mostly in the laboratory



What skills do I need (or will I acquire) for a profession in chemistry?

The school curriculum aims to teach skills which should prepare you for a career in chemistry. These should be improved as you study to include the ability to:

- Work with high precision
- Work in such a way that the answer can be traced back to the starting point – we call this accountability
- Time management
- Communication
- Teamwork in a multidisciplinary environment
- Environmentally conscious work ethic
- Management skills

Which subjects must I complete in school to study chemistry at university?

You need to pass Mathematics at Level 4 or Level 5, to study first year chemistry at university. Some universities also require a pass in Physical Sciences, also at Level 4 or Level 5, depending on the programme.

To understand all developments in Chemistry, as well as technology, you must be able to read and understand English, and so you will also generally require Level 4 or 5 for English (or Afrikaans, for those universities which offer Afrikaans as a language of instruction).

If you do not qualify, bridging courses and Extended Programmes are available at many universities.

We recommend that you choose both Mathematics and Physical Sciences if you want to study chemistry.

