

## CHEMISTRY (OCR Chemistry A: A-Level H432)

Chemistry is *the* central science and impacts on all facets of our lives. An understanding of chemistry is necessary to all other sciences from astronomy to zoology. All of the materials used by engineers and technologists are made by chemical reactions and we all experience chemical reactions continuously, whether it be breathing or baking a cake, driving a car or listening to a battery driven iPod. We are all faced with challenges that will shape the future of our world. How are we to keep our planet clean, generate sustainable fuel and food resources for an expanding population, keep the atmosphere safe and eradicate killer diseases? We don't yet have all the answers to these important questions but we do know that chemistry will provide some of the answers. The success of future technologies such as hydrogen fuel cells, nanotechnology and photovoltaic devices all rely on the ingenuity of chemists to devise new materials.

### What you need

- GCSE Combined Science (or IGCSE Sciences) or the three separate GCSE sciences, ideally at grade 7, 8 or 9
- A genuine enthusiasm for Chemistry
- A good command of written English with sound skills in Mathematics
- An enjoyment of practical work in the laboratory
- A willingness to work hard with motivation and self-discipline

The A-Level qualification will be assessed by three written papers which will all be taken at the end of the course. Practical skills will be developed throughout the course and a portfolio of work will be kept leading to a separate 'Practical Endorsement for Chemistry'.

Topics covered during the first year of the course include – Foundations of Chemistry, the Periodic table, Energy and Core Organic Chemistry. During the second year of A-Level you will study Further Organic Chemistry (including analytical techniques such as spectroscopy) as well as Physical Chemistry and the Transition Elements.

You need to be prepared to think around problems and to extend your study skills beyond simple recall of information. We aim to make this development enjoyable and stimulating, not least by stressing the relevance of Chemistry to areas such as the environment, society and the economy. The specification has links with related subjects such as Biology, Geography and Physics.

Chemistry is not only interesting in itself but is also an essential core subject for many University courses and career paths. These include medicine, dentistry, veterinary science, pharmacy and pharmacology, food science, cosmetic science, biological sciences, oceanography and meteorology. Agricultural and environmental sciences, forensic sciences and aspects of engineering also draw on Chemistry skills.

A Chemistry student is seen as numerate, analytical, and practical with good problem solving, presentation and communication skills. In short, an A-Level in Chemistry is a highly regarded qualification.



#### WHERE NEXT?

**Gretchen Kwong**

Engineering at Imperial College London

Studied Chemistry, Physics, Mathematics and Further Mathematics