CHEMISTRY

Chemistry is an exciting, challenging subject to study at A Level and the development of problem solving and thinking skills feature heavily. There is a strong emphasis on developing an appreciation of the general principles and patterns which form the foundation for later studies. Gaining an understanding of the theoretical aspects of chemical behaviour is a prime consideration and this is supported whenever possible by integrated practical work.

We follow the OCR A syllabus. There are three exams at the end of the Upper Sixth year and there is no coursework: practical skills are assessed by the teacher and reported independently from the A Level grade.

Lower Sixth Year topics include:

- Basic Concepts of Organic Chemistry and Hydrocarbons
- Atoms and Reactions
- Amount of Substance
- Electrons, Bonding and Structure
- The Periodic Table
- Alcohols, Haloalkanes and Analysis
- Energy
- Kinetics
- Equilibria

Upper Sixth Year topics include:

- Further Organic Chemistry including Aromatics, Amines and Carboxylic acids
- Polymers and Synthetic pathways
- Acid base equilibrium, pH & buffer solutions
- Thermodynamics and entropy
- Kinetics and Equilibria
- Analysis and Spectroscopy
- Transition Elements

Practical Work

Integrated practical activities support the theoretical work and build up skill level. They include:

- Quantitative analysis using volumetric equipment
- Use of quickfit glassware to carry out organic reactions under reflux or distillations
- TLC and recrystallisation
- Use of data logging equipment to measure reaction rates and changes in pH

The department enters teams of students into a number of competitions throughout the A Level years including the Royal Society of Chemistry's Young Analyst Competition and both Upper and Lower Sixth Form Olympiads. The Future Chemistry society meet to discuss recent academic papers and then have the opportunity to speak to the author of the research to find out more and develop a deeper understanding. There are plenty of opportunities to extend knowledge and thinking beyond the confines of the specification and we organise lectures and visits by external speakers and university staff.

Chemistry is required by a number of university courses, including Medicine, Dentistry and Veterinary Science, and you should check admissions literature carefully. Whilst it is not essential to study A Level Mathematics, a degree of competency with number is required. Whatever your chosen career path, the Chemistry course will improve your problem solving and analytical skills.

A qualification in Chemistry opens doors to a wide range of careers. Chemistry is involved in our everyday lives and there is a vast range of jobs and careers open to those who have studied Chemistry at any level; great career opportunities exist both inside and outside the lab. Nobody knows what the jobs of the future will look like, but many of them will be created in Chemistry to solve global challenges such as human health, energy and the environment.

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