

CHEMISTRY

Chemistry is one of the key sciences. Chemists are fascinated by the materials around them:—how they behave and react under different conditions, and how they can be used for our own purposes.

CHEMISTRY (AS and A2 LEVEL) - Awarding Body OCR

Module 1 – Development of practical skills

Skills of planning, implementing, analysis and evaluation

Module 2 – Foundations in chemistry

Includes:

- Atoms, compounds, molecules and equations
- Amount of substance
- Acid–base and redox reactions
- Electrons, bonding and structure.

Module 3 – Periodic table and energy

Includes:

- The periodic table and periodicity
- Group 2 and the halogens
- Qualitative analysis • Enthalpy changes
- Reaction rates and equilibrium (qualitative).

Module 4 – Core organic chemistry

Includes:

- Basic concepts
- Hydrocarbons
- Alcohols and haloalkanes
- Organic synthesis
- Analytical techniques (IR, MS).

Module 5 – Physical chemistry and transition elements

Includes:

- Reaction rates and equilibrium (quantitative)
- pH and buffers
- Enthalpy, entropy and free energy
- Redox and electrode potentials
- Transition elements

Module 6 – Organic chemistry and analysis

Includes:

- Aromatic compounds
- Carbonyl compounds
- Carboxylic acids and esters
- Nitrogen compounds
- Polymers
- Organic synthesis
- Chromatography and spectroscopy (NMR).

Entry to the course

Grade 5 or above in GCSE science, it's preferable that you have studied separate science chemistry (triple science). You will need to be interested in Chemistry. You will need to be numerate, and have GCSE Maths at grade 5.

Learning Strategies

The course involves practical investigation, learning and summarising of information and developing and understanding ideas and theories. In the examination there is a strong emphasis on understanding and application.

A variety of teaching styles are used, as appropriate – formal teaching, individual study and practical assignments. Students complete regular assignments.

Extra help with your AS/A2 studies?

You can arrange a tutorial with any teacher within the department. In the run-up to exam periods revision classes are offered during lunchtimes and after school. In the Summer term 'chemistry clinic' will be held during lunchtimes in room 601.

Text books and Revision Guides

All students are issued with a text book written especially for the course, which matches the specification. Revision guides are available for purchase from the department each September.

Careers and Further Education

Chemistry is essential for certain careers in addition to the Chemical Industry and Research, e.g. Medicine, Veterinary Science, Agricultural Specialists, Pharmacy, Forensic Science, Materials Specialists, etc. and is very useful in other scientific areas. It is also useful for Medical Laboratory Sciences, Radiography and Physiotherapy.

Many Chemistry students enter careers in Finance and Accountancy, Insurance and Law. The rigour and demands of a Chemistry course help train students to be resilient and adaptable.