

## Chemistry

### Entrance Requirements

To make a success of this A level you **require at least a grade B** in GCSE Chemistry. Although achieving a grade in GCSE Further Maths would be beneficial, gaining at least a B in GCSE Maths is highly desirable. Chemistry is the science most often required by universities for students to embark on degrees in medicine, dentistry and pharmacology, forensic and veterinary science, and chemical engineering. There will also be an increased emphasis on mathematical content.

CCEA Chemistry will be the only GCE in Chemistry which uses practical examinations in its award of both GCE AS and A level qualification.

The course emphasises the analytical approach, and students will also acquire skills that are valued in further and higher education as well as the work place. These include research, investigation, analysis, communication, problem solving and working with others.

### Students can take:

- The AS course as a final qualification; or
- The AS units plus the A2 units for a full GCE A level qualification.

In the AS units, students explore the fundamentals of GCE Chemistry which helps them to make the transition from GCSE Chemistry, with topics like

- Calculating chemical quantities
- The preparation, isolation and purification of liquid organic chemicals

### Mathematical skills at AS

- Using simple probability
- Using algebraic methods
- Converting units
- Drawing 3D shapes
- Plotting and extrapolating graphs

A2 will build on the knowledge of physical and organic chemistry acquired at AS. New topics include NMR, the transition metals and Chemistry in medicine. Those revisited are

- Rates of reaction and enthalpy changes
- Optical isomerism, organic carbonyl and aromatic compounds

Mass spectroscopy and volumetric analysis

### Mathematical skills at A2

- Constructing expressions from data given
- Using logarithms
- Analysing data
- Investigating geometry
- Carrying out calculations involving deduction

**Scheme of Assessment**

|            |   |   |
|------------|---|---|
| <b>AS1</b> | Basic Concepts in Physical and Inorganic Chemistry                                | Written paper containing multiple choice and structured questions –40% AS.<br>16% of A level  |
| <b>AS2</b> | Further Physical and Inorganic Chemistry and an introduction to Organic Chemistry | Written paper containing multiple choice and structured questions – 40% AS.<br>16% of A level   |
| <b>AS3</b> | Basic Practical Chemistry   | Practical booklet A consists of practical tasks in the laboratory<br>Practical theory booklet B testing practical technique, observation and calculations –<br>20% AS<br>8% of A level  |
| <b>A21</b> | Further Physical and Organic Chemistry  | Written paper containing multiple choice and structured questions – 40% A2.<br>24% of A level   |
| <b>A22</b> | Analytical, Transition Metals, Electrochemistry and Organic Nitrogen Chemistry    | Written paper containing multiple choice and structured questions – 40% A2<br>24% of A level  |
| <b>A23</b> | Further Practical Chemistry   | Practical booklet A consists of practical tasks in the laboratory<br>Practical theory booklet B testing practical technique, observation and calculations –<br>20% A2<br>12% of A level |

**Careers**

Choice of Chemistry as an A level subject opens up a wide variety of career options. Chemistry based skills and experience can be used, not only in many different areas within the chemical industry, but also in more general careers in business, administration, etc.

Medicine  
Pharmacy  
Chemical Engineering  
Dentistry  
Agriculture  
Finance  
Computer Gaming

Veterinary Science  
Food Science  
Forensic Science  
Radiography  
Research  
Biomedical

Dietetics  
Environmental  
Oil and Gas Industry  
Accountancy  
Sports and Nutrition  
Commerce