### Chemistry A Level

### Awarding Body: AQA

*This qualification is linear. Linear means that students will sit all the A-level exams at the end of their A-level course.*

The aims of the specification should encourage candidates to:

* Develop essential knowledge and understanding of the concepts of chemistry, and the skills needed for the use of these in new and changing situations.
* Develop an understanding of the link between theory and experiment.
* Be aware of how advances in information technology and instrumentation are used in chemistry.
* Bring together knowledge of ways in which different areas of chemistry relate to each other.

**Year 1**

*Physical chemistry*

* Atomic structure
* Amount of substance
* Bonding
* Energetics and Kinetics
* Chemical equilibria and Le Chatelier's principle
* Oxidation, reduction and redox equations

*Inorganic chemistry*

* Periodicity
* Group 2, the alkaline earth metals and Group 7(17), the halogens

*Organic chemistry*

* Introduction to organic chemistry
* Alkanes and Halogenoalkanes
* Alkenes and Alcohols
* Organic analysis

**Year 2**

Physical chemistry

* Thermodynamics
* Rate equations
* Equilibrium constant Kc for homogeneous systems
* Electrode potentials and electrochemical cells
* Acids and bases

Inorganic chemistry

* Group 7(17), the halogens
* Properties of Period 3 elements and their oxides
* Transition metals
* Reactions of ions in aqueous solution

Organic chemistry

* Optical isomerism
* Aldehydes and ketones
* Carboxylic acids and derivatives
* Aromatic chemistry
* Amines
* Polymers
* Amino acids, proteins and DNA
* Organic synthesis
* Nuclear magnetic resonance spectroscopy
* Chromatography

**A level Assessment 3 Exams taken May/June of Year 13**

**Paper 1** W*ritten exam: 2 hours - 35% of A-level*

• Relevant physical chemistry topics

• Inorganic chemistry

• Relevant practical skills

**Paper 2** *Written exam: 2 hours - 35% of A-level*

• Relevant physical chemistry topics

• Organic chemistry

• Relevant practical skills

**Paper 3** *Written exam: 2 hours - 30% of A-level*

• Any content

• Any practical skills

In addition there will be a certificate awarded to students for demonstrating their practical skills throughout the course.