

## Chemistry - AQA

### Course Content

#### Physical Chemistry

Atomic structure, Amount of substance, Bonding, Energetics, Kinetics, Chemical equilibria, Le Chatelier's principle and  $K_c$ , Oxidation, reduction and redox equations, Thermodynamics (A Level only), Rate equations (A Level only), Equilibrium constant  $K_p$  for homogeneous systems (A Level only), Electrode potentials and electrochemical cells (A Level only), Acids and bases (A Level only)

#### Inorganic Chemistry

Periodicity, Group 2 - the alkaline earth metals, Group 7(17) - the halogens, Properties of Period 3, (A Level only), Transition metals (A Level only), Reactions of ions in aqueous solution (A Level only)

#### Organic Chemistry

Introduction to organic chemistry, Alkanes, Halogenoalkanes, Alkenes, Alcohols, Organic analysis, Optical isomerism (A Level only), Aldehydes and ketones (A Level only), Carboxylic acids and derivatives (A Level only), Aromatic chemistry (A Level only), Amines (A Level only), Polymers (A Level only), Amino acids, proteins and DNA (A Level only), Organic synthesis (A Level only), Nuclear magnetic resonance spectroscopy (A Level only), Chromatography (A Level only)

### Assessment pattern

#### AS

**Paper 1 (50% of the AS):** Relevant physical chemistry and inorganic chemistry topics

Written exam: 1 hour 30 minutes (65 marks of short and long answer questions/15 marks of multiple choice questions)

**Paper 2 (50% of the AS):** Relevant physical chemistry and organic chemistry topics

Written exam: 1 hour 30 minutes (65 marks of short and long answer questions/15 marks of multiple choice questions)

#### A-level

**Paper 1 (35% of A Level):** Relevant physical chemistry and inorganic chemistry topics

Written exam: 2 hours (105 marks of short and long answer questions)

**Paper 2 (35% of A Level):** Relevant physical chemistry and organic chemistry topics

Written exam: 2 hours (105 marks of short and long answer questions)

**Paper 3 (30% of A Level):** Any content

Written exam: 2 hours (40 marks of questions on practical techniques and data analysis, 20 marks of questions testing across the specification and 30 marks of multiple choice questions)

### Lesson Structure

Formal teaching, small group work, practical work, problem solving tasks, research.

### Extra Information

Candidates should come from a Double or Triple Science background, preferably with a minimum grades of B in Core and Additional Science, or Chemistry. An inquisitive mind, a good understanding of Mathematics at GCSE and a keen interest in Chemistry are also useful prerequisites. The Chemistry Course is an excellent complement to Physics and/or Biology and is an essential component for those students intent on a medical career.