

Subject: Chemistry	
Examination Board: AQA	Specification code: 7405
Three papers accounting for 100% of the final A Level and divided into three sections.	
2 hour written paper <ul style="list-style-type: none"> • Relevant physical chemistry topics • Inorganic chemistry • Relevant practical skills 35% of total A Level. 105 marks of short and long answer questions	<p>Physical chemistry consisting of atomic structure, amount of substance, bonding, energetics, chemical equilibria and Le Chatelier's principle, oxidation, reduction and redox equations thermodynamics, equilibrium constant K_p for homogeneous systems, electrode potentials and electrochemical cells, and acids and bases.</p> <p>Inorganic chemistry consisting of periodicity, Group 2, the alkaline earth metals, and Group 7(17), the halogens, properties of Period 3 elements and their oxides, Transition metals, and reactions of ions in aqueous solution.</p>
2 hour written paper <ul style="list-style-type: none"> • Relevant physical chemistry topics • Organic chemistry • Relevant practical skills 35% of total A Level. 105 marks of short and long answer questions	<p>Physical chemistry consisting of amount of substance, bonding, energetics, kinetics, chemical equilibria and Le Chatelier's principle, and rate Equations.</p> <p>Organic chemistry consisting of introduction to organic chemistry, Alkanes, Halogenoalkanes, Alkenes, Alcohols, Organic analysis, Optical isomerism, Aldehydes and ketones, Carboxylic acids and derivatives, Aromatic chemistry, Amines, Polymers, Amino acids, proteins and DNA, Organic synthesis, Nuclear magnetic resonance spectroscopy, and Chromatography.</p>
2 hour written paper <ul style="list-style-type: none"> • Any content • Any practical activities 30% of total A Level. Total of 90 marks.	40 marks of questions on practical techniques and data analysis 20 marks of questions testing across the specification 30 marks of multiple choice questions.
There are 12 required practical activities. Written papers will assess knowledge and understanding of these, and the skills exemplified within each practical.	Make up a volumetric solution and carry out a simple acid-base titration Measurement of an enthalpy change Investigation of how the rate of a reaction changes with temperature Carry out simple test-tube reactions to identify; cations – group 2, NH_4^+ ; anions, group 7 (halide ions) OH^- , CO_3^{2-} , SO_4^{2-} Distillation of a product from a reaction Tests for alcohol, aldehyde, alkene and carboxylic acid Measuring a rate of reaction; by an initial rate method, by a continuous monitoring method Measuring the EMF of an electrochemical cell Investigate how pH changes when a weak acid reacts with a strong base and when a strong acid reacts with a weak base Preparation of a pure organic solid and test its purity, a pure organics liquid Carry out simple test-tube reactions to identify transition metal ions in aqueous solution Separation of species by thin-layer chromatography

What students can expect from the course:

- Throughout the course students will undertake a large amount of practical work, in addition to having carried the 12 practical activities. 15% of the marks in the written papers will relate to practical work.
- During the practical activities students will carry out experimental and investigational activities and analyse and interpret data in a range of contexts.
- The course is designed to develop students interest in and enthusiasm for chemistry, including developing an interest in further study and careers associated with chemistry.
- This course encourages students to develop essential knowledge and understanding in the concepts of Chemistry, and the skills needed for the use of these in new and changing situations.
- Students develop essential knowledge and understanding of different areas of the subject and how they relate to each other.
- Studying Chemistry develops an appreciation of the contributions of Chemistry to society, and the responsible use of scientific knowledge and evidence.
- Chemistry is about everyday life. It impacts upon every single activity and substance we know about from the moment we are born. It therefore is an excellent grounding for taking subjects in and out of the scientific arena beyond AS and A-level.
- A course that is essential, or highly recommended, for some university courses such as Medicine, Dentistry and Veterinary Science and is helpful for courses such as Biochemistry.
- In private study students are expected to consolidate class work, read ahead on future work and read around the taught material.

Expected GCSE qualifications:

We recommend students have achieved a Grade 6 in both Chemistry or Double Award (Science) and Maths to be successful at A Level.

To find out more information you may wish to access the following: <http://www.aqa.org.co.uk/7405>