

Studying Chemistry A Level at Abingdon

Chemistry is a very popular subject here at Abingdon with about half the Lower Sixth opting to start the A Level course. We follow the EdExcel A level specification. This is suitable for students that have studied either separate Chemistry or Dual Award Science at GCSE or IGCSE and normally for those that have at least grade 7 standard. Although most boys do, it is not essential to be also studying other sciences or maths at A level, although a high level of numeracy and a logical approach that are fostered by studying these other subjects can be advantageous in some topics.

The course is broadly split into the three classical branches of chemistry; namely Inorganic Chemistry, Organic Chemistry and Physical Chemistry. Building on the foundations set down at GCSE, the major topics include:

- Bonding and structure
- Energetics
- Kinetics
- Equilibrium and acid-base equilibria
- Redox and redox equilibria
- Spectroscopic techniques
- The Periodic Table
- Organic chemistry of alkanes, alkenes, alcohols and halogenoalkanes
- Organic chemistry of carbonyls & carboxyls, aromatic and organonitrogen chemistry and organic synthesis

The whole department teaches Chemistry because we are passionate about the subject. The approach to teaching is one that focuses on both the theory and practical aspects. Teaching of each class is split evenly between two specialist teachers over ten 50 or 55 minute periods per fortnight. We have excellent facilities, with seven labs each fitted out with three fume cupboards for safe manipulation of the full range of chemicals encountered at A level. Teachers are also supported by a team of well-qualified technicians.

There is no separate practical examination but the A Level qualification comes with a separately certificated practical endorsement and a pass in this is a condition for entry for many science university undergraduate courses. Practical competence in a number of skill areas in at least twelve core practical activities is the minimum requirement to pass the practical endorsement but Abingdon boys usually pass this threshold comfortably with our practical-rich course. The A Level examination at the end of the course is made up from three written papers and the practical aspects of the course are addressed here.

We have a taught extension programme for the Sixth Form that introduces interested boys to areas of chemistry outside the scope of the A level or at early undergraduate level. Some boys engage in their own project work, making use of our spectrometer and project room to carry out their own research. Recent projects have included investigations into ionic liquids and exploring the synthesis of some aspirin derivatives. Many boys enter national competitions and a high proportion every year achieve the gold level certificates (and sometimes even better) in the Royal Society of Chemistry (RSC) Olympiad and Cambridge C₃L₆ Chemistry challenge. Speakers from local universities and industry regularly come to inspire boys with their research.

Every year we have boys going from Abingdon to study subjects at high calibre universities, using the subject either as a facilitator or as a required A Level for their course. The most common include chemistry degrees, medical degrees and biological or physical natural sciences degrees. Boys make successful applications to Oxford and Cambridge every year with A level Chemistry from Abingdon.