A LEVEL IN CHEMISTRY

The course builds on skills and knowledge gained at GCSE and covers a range of topics which give students a greater insight into principles and concepts underlying the chemical world. Specifically, we cover aspects of Physical, Inorganic and Organic Chemistry including the structure of the atom, trends and patterns in the Periodic Table and typical reactions of organic families.

Year 13 builds on knowledge and skills developed in Year 12. You will gain a greater understanding of the real world applications of these theoretical concepts in your second year. If you like a challenge and you enjoy lots of maths and calculations then Chemistry could be for you.

Key Facts

Course Duration: 2 Years

Course Contents

Year 12:

- **Physical Chemistry:** atomic structure, amount of substance, bonding, kinetics, equilibria, and redox reactions.
- **Inorganic Chemistry:** periodicity, group 2 chemistry, and group 7 chemistry.
- **Organic Chemistry:** organic compounds and isomerism, alkanes, halogenoalkanes, alkenes, alcohols, and organic analysis.
- **Practical Skills:** experiments are designed to improve practical competence and introduce the student to a wide variety of techniques.

Year 13:

- **Physical Chemistry:** thermodynamics, further kinetics and equilibria, electrode potentials and electrochemical cells, acids, bases, and buffers.
- **Inorganic chemistry:** periodicity, transition metals, and reactions of inorganic compounds.
- **Organic Chemistry:** stereoisomerism, carbonyl chemistry, aromatic chemistry, amines, amino-acids, DNA, organic synthesis and analysis, structure determination, and chromatography.
- **Practical Skills:** building on Year 12 with more complexity and challenging analysis and evaluation.

Features and Benefits

You will develop transferable skills which are highly valued by employers, including:

- data analysis,
- communication skills,
- applying knowledge to solve problems,
- and practical ability.

Entry Requirements:

Minimum Entry Requirements:
All Loughborough College Sixth Form courses have minimum entry requirements of at least five GCSEs at grade C/4 or above, including English Language and Maths.

Subject Specific Entry Requirements:
GCSE Maths and Science (Double Science or two 'traditional' sciences) at grade 6.

Assessment Methods:

Three x 2 hour exams

Paper 1 and Paper 2, 35% each, and Paper 3, 30%.

You will complete 12 compulsory practicals over the two years and a number of skills will be assessed by your teacher. This will make up the practical endorsement (CPAC).

Progression Opportunities

Upon completing this course you will be equipped to progress onto university, a higher apprenticeship or work. The study of Chemistry develops your numeracy, literacy, and practical skills, which are valued by employers. Your ability to understand new concepts and become an independent thinker is enhanced, which is useful in many areas of work.

Possible degree options include Chemistry, Biology, Physics, Biochemistry, Biomedical sciences, Medicine, Pharmacy or Maths.

Career paths include Research Chemist, Forensic Scientist, Teacher, Analytical Chemist, Chemical Engineer, Biochemist, Pharmacologist, Doctor, Toxicologist or Environmental Manager amongst others.