

# Chemistry



## A Level Chemistry at Southborough

All that **glitters may not be gold, but at least it contains free electrons.**"

-- John Desmond Baernal

**Exam Board:**

**OCR Chemistry A**



### **Entry Requirements**

Grade 6 in GCSE Chemistry (Triple Sci.)

**or** Grade 6-6 in Combined Science

**and** GCSE Mathematics at Grade 6 or above.

### **Tough but Rewarding**

Chemistry is a tough but rewarding and well respected A level.

If you feel that you want a challenge and want to participate in a subject that is also rewarding then it might be the one for you!

[www.southborough.kingston.sch.uk](http://www.southborough.kingston.sch.uk)

# Chemistry

## A level Chemistry

### Year 1 What will I study?

#### Module 1: Development of practical skills in chemistry

- Practical skills assessed throughout course over the 2 years and will be examined in both the practical endorsement and in the written examination.

#### Module 2: Foundations in Chemistry

- Atoms, compounds, molecules and equations
- Amount of a substance
- Acid-base and redox reactions
- Electrons, bonding and structure

#### Module 3: Periodic table and energy

- The periodic table and periodicity
- Group 2 and the halogens
- Qualitative analysis
- Enthalpy changes
- Reaction rates and equilibrium (qualitative)

#### Module 4: Core Organic Chemistry

- Basic concepts
- Hydrocarbons
- Alcohols and haloalkanes
- Organic synthesis
- Analytical techniques

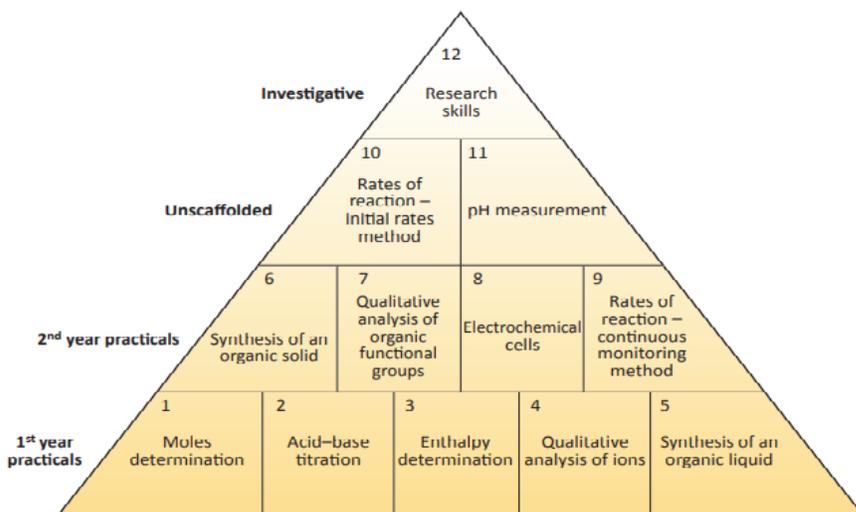
### Practical skills

The coursework component has been completely removed from the A level qualification and will now be examined within the examination units listed above.

Practical skills are assessed both in the written examinations and in the practical endorsement. The practical endorsement is reported separately on examination certificates as a standalone pass/fail along side the final grade.

Students wishing to study a Science/medical degree at university will be required to pass this component by the university as a condition of their entry on their degree course.

Students will have the opportunity to visit Kings College, London to carry out some of the required practicals.



## Year 2 What will I study?

### Module 5: Physical chemistry and transition elements

- Reaction rates and equilibrium (quantitative)
- pH and buffers
- Enthalpy, entropy and free energy
- Redox and electrode potentials
- Transition elements

### Module 6: Organic chemistry and analysis

- Aromatic compounds
- Carbonyl compounds
- Carboxylic acids and esters
- Nitrogen compounds
- Polymers
- Organic synthesis
- Chromatography and spectroscopic methods

## How will I be assessed?

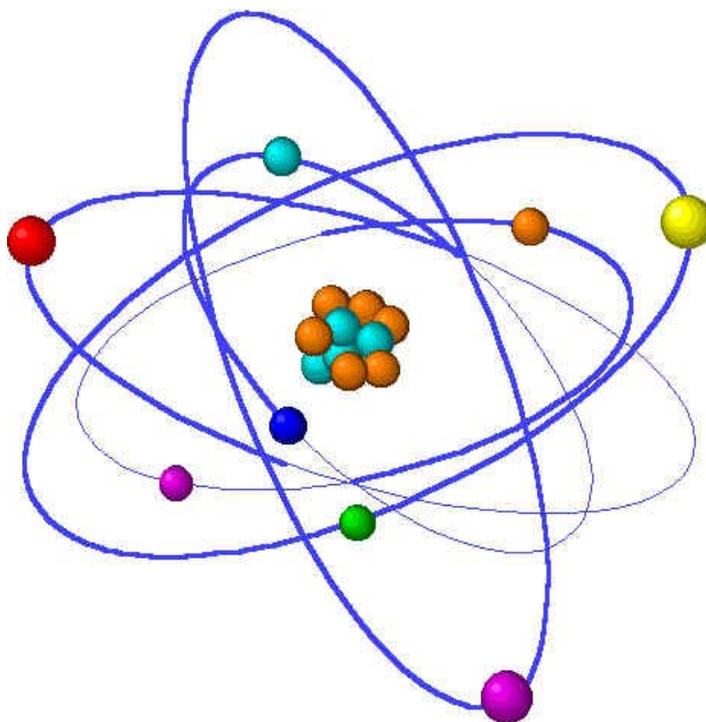
There are 3 written examinations taken at the end of Year 13.:

- **Paper 1:** Periodic table, elements and physical chemistry.
- **Paper 2:** Synthesis and analytical techniques
- **Paper 3:** Unified Chemistry

**Papers 1 and 2** are 2 hours 15 minutes long and are both out of 100 marks. These have 2 sections:

- **Section A** multiple choice questions.
- **Section B:** short answer question styles including: problem solving, calculations, structured questions and practical based questions plus an extended response question.

**Paper 3** is 1 hour 30 minutes and is out of 70 marks. Paper 3 contains a mixture of question styles with a focus on application of knowledge and evaluation of practical methods.



# A Level Chemistry

<b>Am I suited to this course?</b>	<p>You will be suited to the study of Chemistry if you:</p> <ul style="list-style-type: none"><li>- Have enjoyed studying GCSE Science</li><li>- Can think logically and scientifically</li><li>- Have good mathematical ability</li><li>- Are interested in a higher education course in Chemical or Biological Sciences</li><li>- Are a person who is "committed" to learning and works well outside of school and independently</li></ul>
<b>What other subjects does it complement?</b>	<p>Chemistry is an excellent course to take with Physics, Biology, Mathematics or Geography. Those considering a Biological Sciences course at university should choose at least AS Chemistry.</p> <p>Essential for a career in both medicine and Pharmacology.</p> <p>Chemistry is also well suited to Business Studies/ Economics as well as this often leads to careers in the petrochemical industry.</p>
<b>Where does it lead?</b>	<p>Chemistry is accepted as a strong foundation for all science-based courses at university and is essential in many cases. Recognised as a sign of high academic achievement, it is a passport to a host of academic careers, the most obvious being Medicine, Veterinary Science, Teaching, Engineering and others in the chemical industry.</p>
<b>Recommended Text Books:</b>	<p>OCR AS/A-level Year 1 Chemistry A, Pearson (ISBN: 1447990781) OCR A-level Chemistry A, Pearson (ISBN: 1447990811)</p>
<b>Recommended Reading:</b>	<p>New Scientist (Journal) Newspaper (Science in the News)</p>

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