

# Chemistry

## Advanced Level

### General Information

A chemist has played a role in shaping the substances around you. From the aspirin that soothes your headache, through the steel that supports buildings you work in, to the viscoelastic polymers of a memory foam mattress, they all owe their existence to the work of the Chemist. Closely linked with biological and medical science, chemistry also has important connections with careers in engineering, as well as environmental, forensic and earth sciences.

### How it is taught

In A Level Chemistry we will help to develop your scientific ability and foster an enquiring mind through logical thought processes. Chemistry A Level has a desirable level of difficulty, so expect to find topics challenging. With our support and the right approach, you can master them. Teachers will guide you through the course content and you will be offered supportive texts to help in bridging the transition from GCSE.

Practical work integrates well with class work and theory. In routine experiments, you usually work together in pairs.

You are encouraged to take greater responsibility for your own learning than at GCSE and regular completion of homework assignments will be expected. The course involves a significant amount of mathematical content.

The A Level course provides an interesting and satisfying educational experience even for those not intending to take their study of Chemistry further.

### Useful / common subject combinations

The majority of students combine Chemistry with Biology and this is useful for any progression to medical courses. Approximately 30% of our students combine Chemistry with Maths and/or Physics; this then enables a very wide choice of future options specialising in Science or Engineering.

Chemistry with Geology and/or Geography is also a good combination. However, an increasing number of students successfully combine Chemistry with other subjects such as Business Studies, English, History, Psychology or a language, to give themselves a broader education



### Entry requirements

In addition to the College general entry requirements for A Level study, you should have at least a grade 6 in GCSE Maths and an average GCSE score of 5.5 plus one of the following:

- Grade 6 in both grades of Combined Science
- Grade 6 in GCSE Chemistry

You should also meet the general college entry requirements for Advanced Level study. Please refer to the current Prospectus - advanced programmes, entry requirements.

In this subject, particular skills and aptitudes will be required, many of which will be demonstrated by students' GCSE profiles.

Entry requirements might be changed in light of curriculum reform.

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### Examination Details

Three exam papers will assess all of the content as follows:

Periodic table, elements and physical chemistry (covering content from modules 1,2,3 & 5) - 100 marks	2 hours 15 minutes written paper - 37% of total A level
Synthesis and analytical techniques (covering content from modules 1,2,4 & 6) - 100 marks	2 hours 15 minutes written paper - 37% of total A level
Unified chemistry (covering content from all six modules) - 70 marks	1 hour 30 minutes written paper - 26% of total A level

A non-exam Practical Endorsement in Chemistry, awarded by the students' chemistry teacher will be reported separately

### Careers / HE information

Chemistry is an essential subject for many science degree courses and it is a useful advanced level subject for entry into engineering and a number of non science degrees.

Some examples of science and engineering degree courses/careers that our students have taken after completing Advanced Level Chemistry:

Agriculture/Ecology	Food Science
Anatomy/Physiology	Genetics
Biology/Biochemistry	Material Science/Metallurgy
Botany/Zoology	Medicine
Chemical Engineering	Microbiology
Chemistry	Ophthalmic Optics
Dentistry	Pharmacy/Pharmacology
Environmental Science	Veterinary Science

### First Year Chemistry

The first year course contains a practical module which aims to develop experimental techniques that will be assessed as part of the examinations. A second module builds on the content of GCSE Chemistry/GCSE Science and develops essential knowledge and understanding. The third module provides a framework for the study of inorganic and physical chemistry, with the fourth module focussing on organic chemistry.

#### Course Content of first year

- Module 1 – Development of practical skills in chemistry
- Module 2 – Foundations in chemistry
- Module 3 – Periodic table and energy
- Module 4 – Core organic chemistry

### Second Year Chemistry

The second year course contains and extends the first year work on Organic and Physical Chemistry and includes a study of the Transitions Metals, Equilibrium and Acids. Throughout the course you will build up a portfolio of exemplars that demonstrate the development of your practical skills

#### Course Content for A Level Chemistry exam

- Module 1 – Development of practical skills in chemistry
- Module 2 – Foundations in chemistry
- Module 3 – Periodic table and energy
- Module 4 – Core organic chemistry
- Module 5 – Physical chemistry and transition elements
- Module 6 – Organic chemistry and analysis