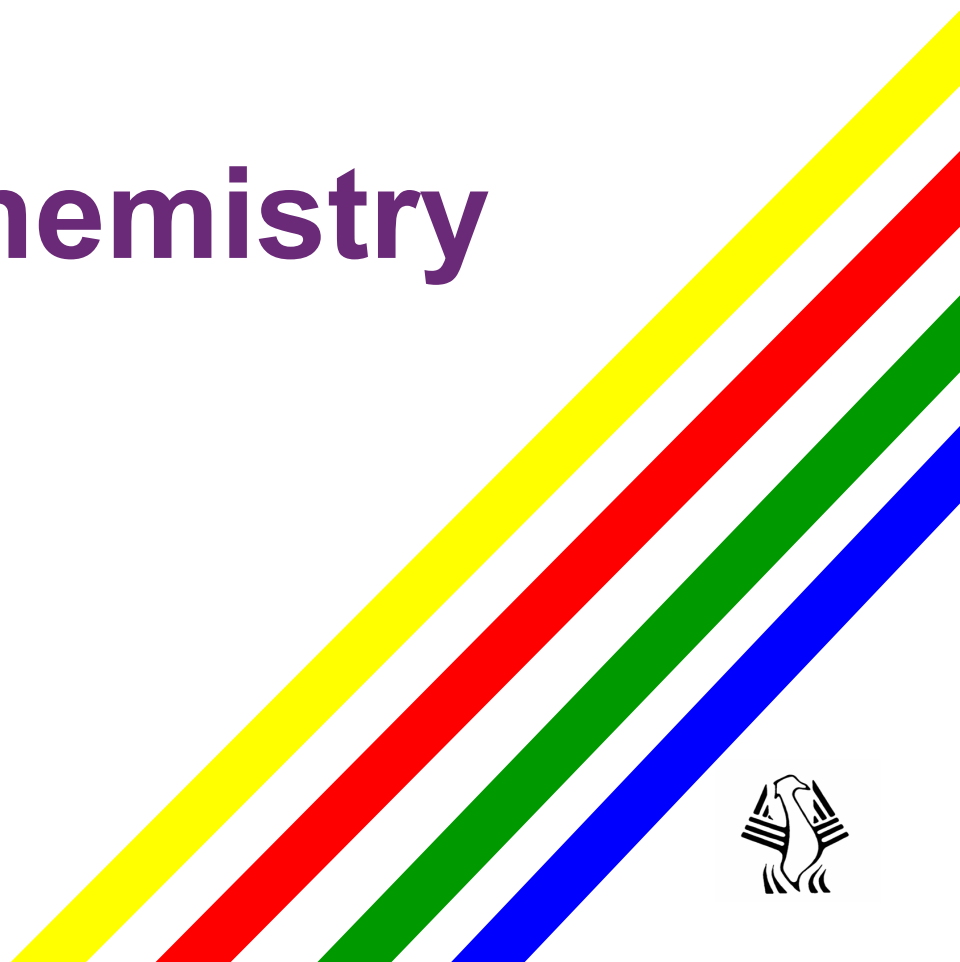


**Aldercar High School**

**Post-16**

**Chemistry**



# A Level Chemistry

## Topics covered

| AS and first year of A-level                                                                                                                                  | Second year of A-level                                                                                                                                                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Physical chemistry</b><br>Including atomic structure, amount of substance, bonding, energetics, kinetics, chemical equilibria and Le Chatelier's principle | <b>Physical chemistry</b><br>Including thermodynamics, rate equations, the equilibrium constant $K_p$ , electrode potentials and electrochemical cells                                                                                     |
| <b>Inorganic chemistry</b><br>Including periodicity, Group 2 the alkaline earth metals, Group 7(17) the halogens                                              | <b>Inorganic chemistry</b><br>Including properties of Period 3 elements and their oxides, transition metals, reactions of ions in aqueous solution                                                                                         |
| <b>Organic chemistry</b><br>Including introduction to organic chemistry, alkanes, halogenoalkanes, alkenes, alcohols, organic analysis                        | <b>Organic chemistry</b><br>Including optical isomerism, aldehydes and ketones, carboxylic acids and derivatives, aromatic chemistry, amines, polymers, amino acids, proteins and DNA, organic synthesis, NMR spectroscopy, chromatography |

## Practicals

Chemistry like all science is a practical subject. Throughout the course you will carry out practical activities including:

- Measuring energy changes in chemical reactions
- Tests to identify different types of compound
- Different methods for calculating rate of reaction
- Studying electrochemical cells
- Preparation of organic solids and liquids
- Advanced forms of chromatography

Throughout the course there are 12 required practical activities (although we will carry out more practical activities than this over the 2 years). You will be assessed on your ability to carry out these practical activities and they may be asked about on the exam

## Exams

There is no coursework on this course. However your performance during practicals will be assessed.

There are three exams at the end of the 2 year A Level all of which are 2 hours long. It is also possible to take 2 exams at the end of the first year of study to accredit AS Chemistry. Both of these exams are 1h 30.

Approximately 15% of the marks on the exam will be about the 12 required practical activities.

## Entry requirements

Grade 6 or above in either GCSE Combined Science or GCSE Chemistry.

A level Chemistry includes a lot of maths and therefore it is important that you also have a good GCSE grade from maths. This is likely to need to be a grade 5.

A-level Chemistry attempts to answer the big question 'what is the world made of' and it's the search for this answer that makes this subject so fascinating. From investigating how one substance can be changed drastically into another, to researching a new wonder drug to save millions of lives, the opportunities that chemistry provides are endless.



## Possible career options

Studying an A-level Chemistry related degree at university gives you all sorts of exciting career options, including:

- Analytical chemist
- Chemical engineer
- Clinical biochemist
- Pharmacologist
- Doctor
- Research scientist (physical sciences)
- Toxicologist
- Chartered certified accountant
- Environmental consultant
- Higher education lecturer
- Patent attorney
- Science writer
- Secondary school teacher.

## Possible degree options

According to [bestcourse4me.com](http://bestcourse4me.com), the top five degree courses taken by students who have an A-level in Chemistry are:

- Chemistry
- Biology
- Pre-clinical medicine
- Mathematics
- Pharmacology.

**For further information contact  
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