



Subject: CHEMISTRY

Exam Board: OCR

Levels available: AS (1 Year and A2 (Additional 2nd Year))

Subject Leader: Mr S Jelly

Course Information:

* What do I need to know or be able to do before choosing this subject?

The AS and A2 level course reflects Chemistry as it is practised and used today in a variety of situations. In order to start this course, it is expected that you have gained a qualification in GCSE—Double Award Sciences or separate Chemistry at Grade A*-C or equivalent.

* What does the course consist of and how will I be assessed?

AS (Advanced Subsidiary) Specification

This is the first half of the full A level course. You will take the AS level examination at the end of Year 12. The marks will count towards entry to Further/Higher Education and/or A2 Chemistry in Year 13.

Unit 1: Foundation Chemistry

30% AS or 15% A level

This unit is designed to bridge the gap between GCSE and A Level by studying topics such as:

Quantitative Chemistry—formulae, equations and the mole

Atomic Structure and Bonding—a more detailed explanation

The Periodic Table—in particular Groups II and VII.

Assessment: one written examination of 1 hour 30 minutes.

Unit 2: Chains and Rings

30% AS or 15% A level

This unit is based on organic chemistry, ie carbon compounds derived from living matter. The basic concepts are:

Alkanes, alkenes and fuels—compounds derived from coal, oil and natural gas

Alcohols—a very important group of organic chemicals

Halogeno-alkanes—chlorides, bromides and iodides.

Assessment: One written examination of 1 hour 30 minutes.

Unit 3: How Far, How Fast?

20% AS or 10% A level

This unit is separated into two parts. There is one written exam and experimental skills are taught within the unit.

Energy Changes in Reactions, Rate of Reaction, Chemical Equilibrium

Assessment: One written examination of 45 minutes.

Experimental Skills

20% AS or 10% A level

Practical skills including planning, obtaining evidence, analysing evidence, evaluating evidence.

This will be assessed at the end of Year 12 by a written paper.

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Course Information:

The ADVANCED LEVEL (AS + A2) Specification

The full Advanced level qualification is made up of the 3 AS Units plus 3 more Units studied at A2 level.

If you decide to continue with the second half of the course in Year 13 you will study the following additional Units.

All three Units are assessed by a written examination of 1 hour 30 mins.

Unit 4: Chains and Rings: 15% of A level

Chains and Rings:

Aromatic Compounds – benzene etc.
Acids and Esters
Nitrogen Compounds
Spectroscopy – modern analytical techniques
Infra Red
Mass
Nuclear Magnetic Resonance

Unit 5: Trends and Patterns: 7.5% of A level

Further Energetics
Periodic Trends in oxides and chlorides
Periodic Trends in oxides and chlorides
Transition Elements
Redox reactions

Options: One option from the following will be studied: 7.5% of A level

Biochemistry or Transition Elements.

Unit 6: Unifying Concepts: 10% of A level

Further rates of reaction
Ionic Equilibria, pH calculations.

Experimental Skills: 10% of A level

Internal assessment of practical skills including planning, obtaining evidence, analysing evidence, evaluating evidence. These skills will be assessed throughout Year 13 by practical assignments.

* How could I develop Key Skills by doing this course?

As well as covering the study of **Chemistry**, the AS/A2 courses will enable you to develop key skills. Your teacher will let you know when a particular piece of work could also account for Key Skills assessment.

You will need to keep evidence of this work in a Portfolio for assessment later if you wish to gain a Key Skills qualification. During this course examples of key skills could include:

Communication e.g. writing a report on an investigation such as comparing bleaches – ‘Value for Money’.

Application of Number e.g. calculations on rates of reaction, equilibrium and pH.

Information & Communication Technology e.g. use of computers as a modelling tool.

Improving own learning & performance e.g. self supported study of an option in Unit 5.

Problem solving e.g. full scale investigation of a problem in Unit 6

Working with others e.g. problem solving exercises.

* What I could go on to do after the course?

A degree in Chemistry, Materials Science, or any related Science Course can be followed. Chemistry is essential for studying Medicine, Pharmacy, or Veterinary Science and is highly regarded as a support subject or non-science subjects e.g. a combined course with a foreign language with a year abroad working with Chemistry and developing linguistic skills.