

CHEMISTRY (Course Code Ch)

Head of Department: Dr Rebecca Sowden MChem DPhil PGDE (Secondary) CSciTeach MRSC

EDEXCEL A Level 9CH0

Course Entry Requirements

Students must have achieved a minimum of a grade 7,7 in GCSE Combined Science or a grade 7 in GCSE Chemistry.

In addition to this, students are expected to pass a short test given in the first week of September.

Year 12 course

Autumn Term

Topic 1 – Atomic structure and the periodic table

Topic 2 – Bonding and structure

Topic 4 – Inorganic chemistry and the periodic table

Topic 5 – Formulae, equations and amounts of substance

Spring Term

Topic 3 – Redox I

Topic 6.1 – Introduction to organic chemistry

Topic 6.2 – Hydrocarbons: alkanes and alkenes

Topic 6.3 – Halogenoalkanes and alcohols

Topic 7 – Modern analytical techniques I

Topic 8 – Energetics I

Topic 9 – Kinetics I

Topic 10 – Equilibrium I

Summer Term

Topic 13.1 - Lattice Energy

Topic 13.2 - Entropy

Topic 16 – Kinetics II

The Mock examination will also take place at the start of this term. The result of this, along with tests over the course of the year, will determine the **indicative grade for UCAS**. The **final predicted grade** will be based on this and the Topic 13 and Topic 16 tests, for which comprehensive summer work will be provided.

Year 13 course

Autumn Term

Topic 11 – Equilibrium II

Topic 12 – Acid-base equilibria

Topic 17.2 - Carbonyl compounds

Topic 17.1 – Chirality

Topic 17.3 - Carboxylic acids and their derivatives

Topic 18.1 – Arenes – benzene compounds

Topic 18.2 - Amines, amides, amino acids and proteins

Topic 18.3 - Organic synthesis

Spring Term

Topic 14 – Redox II

Topic 15 – Transition metals

Topic 19 – Modern analytical techniques II

Summer Term

Revision

Examination

A Level Paper 1 (9CHO/01) – Advanced Inorganic and Physical Chemistry	1 hour 45 mins	30%
A Level Paper 2 (9CHO/02) – Advanced Organic and Physical Chemistry	1 hour 45 mins	30%
A Level Paper 3 (9CHO/03) – General and Practical Principles in Chemistry	2 hour 30 mins	40%

In addition, students will be internally assessed on their practical work over the course of the two years and will be awarded a Practical Endorsement (9CH0/04) based on this.

Equipment and Expenses: The textbooks cost approximately £25 each and a laboratory coat and goggles approximately £20.

Students are also recommended to join RSC ChemNet – the Royal Society of Chemistry network for 16 to 18 year olds for online access to the latest advances in Chemistry.

Departmental Support: Chemistry very much builds on itself as a subject and students are encouraged to ask as soon as they are unsure.

All four members of staff are happy to arrange to help students during breaks or lunchtimes, even if they're taught by another member of staff.

Dr Sowden also runs drop-in-clinics on Wednesday and Friday lunchtimes.

There are also two timetabled periods each fortnight for students who need regular support.

Extra-curricular: There are several opportunities for A level students, supported by the Department and Mrs Barclay, STEM Coordinator:

KS3 Science Club: This is student-run with some support from Dr Sowden and involves a weekly fun practical activity and in 2017-2018 funding was gained from the PTA, by the students, to hatch chicks.

SciSoc: This is student-run with some support from Mrs Barclay and involves a weekly presentation.

ChemSoc: This is student-run with some support from Mrs Barclay and involves a weekly presentation and when possible practical demonstrations.

Research Club: This is new for 2018-2019 and has started with an IRIS (Institute of Research in Schools) project based on ionic liquids, but is very much student-led, despite being overseen by Dr Sowden.

RSC Olympiad: Dr Stafford oversees the training and assessment of this and it is widely recognised by universities. In school this is also linked to experimental opportunities and analysis through the RLC lab.

Mentoring: This can be in a primary school; one to one with a GCSE pupil or in the clinics with Dr Sowden.

Chemistry in Action: Students have the opportunity to attend this conference in Year 12.

(Nov 2018)