Year 13 Chemistry

Students study OCR Salters A level Chemistry (OCR - B)
They study 10 topics over two years, all of which are examined in 3 exams at the end of year 13.
Each topic introduces chemical concepts through the context of an everyday situation when chemistry can make a difference.
It is a spiral curriculum where chemical concepts are introduced, revisited and built upon as the course progresses. Knowledge builds upon concepts covered at GCSE.

Where possible, students will have one teacher for all of their lessons but all students will carry out the same assessments and practicals and we use common markschemes and grade boundaries to ensure parity.

Each lesson begins with a Brain in Gear retrieval task which is frequently a past paper question. There will be teacher input of some kind followed by tasks which use prior learning to develop greater knowledge understanding. Once understanding is established then students develop their ability to apply this to unfamiliar situations. This may all happen within 1 lesson or over a series of lessons dependent upon the topic. Practical skills and other skills such as data analysis are built into lessons throughout the two years of the course.

There is no coursework but a "Practical Endorsement" is awarded at the end of the course provided students have demonstrated a suitable level of skill in a wide variety of specified practical techniques

At the end of each topic students complete a topic test made up of past exam questions. This is then marked and graded and used to identify strengths and areas in need of attention.

Year 13 Curriculum	Autumn Term 1	Autumn Term 2	Spring Term 1	Spring Term 2	Summer Term 1	Summer Term 2
Topic(s)	**Topic 6: The Chemical Industry** Nitrogen chemistry Le Chatelier's principle and Kc Reaction kinetics: concentration, orders, rate equations and mechanisms	**Topic 7: Polymers and Life** Carboxylic acids and esters Amines and amides Condensation and hydrolysis reactions Amino acids, proteins Optical isomerism Enzyme kinetics DNA and RNA Spectroscopy: NMR, mass spec. Using spectroscopy	**Topic 8: Oceans** Enthalpy of solution Solubility The greenhouse effect Strong and weak acids pH calculations Buffers Solubility equilibria Entropy	**Topic 9: Developing Metals** (cont'd) Transition Metal chemistry: Complexes, Catalysis Redox and electrode potentials Colour chemistry 1 (transition metals) Rusting	**Topic 10: Colours by Design** (cont'd) Oils and fats Aldehyde and ketone chemistry Nucleophilic addition mechanism Synthesising organic molecules	**Examination period**

			Topic 9: Developing Metals Transition Metal chemistry: Electron configuration	**Topic 10: Colours by Design** Colour chemistry 2 (organic molecules) Benzene chemistry Electrophilic substitution mechanism Azo dyes		
Assessment	Homework tasks are set to reinforce, practice and apply concepts Practice exam questions are frequently used to gain experience and understand the level of detail required. Students sometimes self assess their own work with some homeworks being given with answers so that students are expected to complete, mark and correct their own work. This increases as students progress through the course and become more adept at this. Students sit end of topic tests which use past exam questions (larger topics also have tests halfway through the topic) Students sit an end of year exam on topics 1-4 The practical endorsement is worked towards throughout the course. Essential experimental chemistry skills are divided into 12 “practical assessment groups” and these are assessed whenever suitable practical work is encountered during the course. Some is assessed in topic 1, some not until topic 10; most are met on a number of occasions The assessment is carried out using the exam board criteria (CPAC) In addition, students must understand the chemistry underlying these practicals and this is assessed through the end of topic tests and exams. Regular out of lesson revision lessons are offered and attendance is expected					

Independent Work
Questions on classwork and exam questions Practical write ups or planning Responding to feedback Revision 5th period work - this can be a variety of different activities, studying a topic independently from given resources, completing a test, completing classwork or questions, planning practicals, working in groups on presentations etc.