CHEMISTRY TERM BY TERM CURRICULUM

Specification link -OCR Chemistry

January 2023

YEAR 12

TERM	Teacher 1 (1 x triple lesson -105 minutes & 1 x double lesson – 70 minutes)	Teacher 2 (2 x double lesson - 70-minute)
1	Module 2.1 Atoms and reactions • Atomic structure & isotopes • Compounds, formulae and equations • Amount of substance Practical assessed activity Mole determination 1.1/1.2/1.3 Year 12 Assessment Point 1 – Atoms and calculations test	Module 2.2 Electrons, bonding and structure • Electron structure • Bonding and structure Year 12 Assessment Point 1 – Electrons and bonding test
2	Module 2.1 continued • Amount of substance continued • Acids-base reactions • Redox reactions Practical assessed activity Acid-base titration 2.1/2.2/2.3	Module 3.1 The periodic table • Periodic table and periodicity • Group 2 • The halogens
3	Module 3.2 Physical chemistry • Enthalpy changes • Reaction rates (qualitative) Practical assessed activity Enthalpy determination 3.1/3.2/3.3	Module 3.1 continued • The halogens continued • Qualitative analysis Practical assessed activity Qualitative analysis of ions 4.1/4.2/4.3 Module 4.1 Basic concepts and hydrocarbons • Basic concepts of organic chemistry • Alkanes and alkenes

4	Year 12 Assessment Point 2 – 2.1 Module 2 test & 3.2 Enthalpy changes test Module 3.2 continued • Reaction rates (qualitative) continued • Chemical equilibrium (qualitative) Module 5.1 Rates, equilibrium and pH • Kc calculations and determination of units	Year 12 Assessment Point 2 – 2.2 Module 2 test & 3.1 Periodicity test Module 4.1 continued • Alkanes and alkenes continued Module 4.2 Alcohols, haloalkanes and analysis • Alcohols • Haloalkanes
5	Module 4.2 continued • Analytical techniques • Spectroscopy Revision of Modules 1-4 Mock examination – Paper covering Modules 1, 2 and 3	Module 4.2 continued • Haloalkanes continued • Organic synthesis Practical assessed activity Synthesis of an organic liquid 5.1/5.2/5.3 Mock examination – Paper covering Modules 1, 2 and 4
6	Module 5.1 Rates, equilibrium and pH • Reaction rates (quantitative) Practical assessed activity Rates of reaction – initial rates method 9.1/9.2/9.3	Module 6.3 Spectroscopy • Carbon NMR • Proton NMR

YEAR 13

Module 1 is taught by Teachers 1 and 2 across the Year, with particular focus through practical assessed activities.

TERM	Teacher 1 (1 x triple lesson -105 minutes & 1 x double lesson – 70 minutes)	Teacher 2 (2 x double lesson - 70-minute)
1	Module 6.1 Aromatic compounds, carbonyls and acids • Aromatic compounds • Carbonyl compounds • Carboxylic acids and esters Practical assessed activity Qualitative analysis of organic functional groups 7.1/7.2/7.3 Year 13 Assessment Point 1 – Aromatic compounds test	Module 5.1 Rates, equilibrium and pH • Reaction rates (quantitative) review • Equilibrium (quantitative) Practical assessed activity Rates of reaction – continuous monitoring method 10.1/10.2/10.3 Year 13 Assessment Point 1 – Reaction rates test

2	Module 6.1 continued • Carboxylic acids and esters continued Module 6.2 Nitrogen compounds, polymers and synthesis • Amines • Amino acids, amides and chirality Practical assessed activity Synthesis of an organic solid 6.1/6.2/6.3	Module 5.1 continued • Acids, bases and pH • Buffers Practical assessed activity pH measurement 11.1/11.2/11.3 Module 5.2 Energy • Lattice enthalpy
3	Module 6.2 continued • Polyesters and polyamides • Carbon-carbon bond formation • Organic synthesis Mock examination – Paper 2 Synthesis and analytical techniques focus (Modules 1, 2, 4, 6.1 and 6.2)	Module 5.2 • Enthalpy, entropy and free energy • Redox and electrode potentials Practical assessed activity Electrochemical cells 8.1/8.2/8.3 Mock examination – Paper 1 Periodic table, elements and physical chemistry focus (Modules 1, 2, 3, 5.1 and 5.2)
4	Module 6.3 Analysis • Chromatography • Qualitative analysis • Spectroscopy review Practical assessed activity Research skills 12.1/12.2/12/3	Module 5.3 • Transition elements • Qualitative analysis Catch up on any practical activity skills not assessed
5	Revision for final exams	
6	Final Exams Paper 1 Periodic table, elements and physical chemistry: Assesses modules 1, 2, 3 & 5 (37% of final grade) Paper 2 Synthesis and analytical techniques: Assesses modules 1, 2, 4 & 6 (37% of final grade) Paper 3 Unified chemistry: Assesses all modules (26% of final grade) Practical endorsement in chemistry: Assessed internally through PAGs (pass or fail)	