

QPHS Year 13 Chemistry Curriculum Map

Half term	Title	Unit summary	Assessment
1	T1: Optical Isomers	Optical Isomerism	Assessed homework – on optical isomerism
	T1: Aldehydes and Ketones T2: Thermodynamics	 Reduction Nucleophilic addition with HCN Nucleophilic addition with KCN Born-Haber cycles Entropy change Gibbs free cycle 	 Assessed homework on aldehydes and ketones End of topic test on aldehydes and ketones cumulative knowledge from optical isomerism, isomers, and year 12 organic chemistry Assessed homework on drawing Born-Haber cycles Assessed homework on entropy changes and Gibbs free energy End of topic test on thermodynamics with cumulative knowledge on energetics.
2	T1: Carboxylic acids and derivatives	 Structures of carboxylic acids and esters Properties of Carboxylic acids and esters Common uses of esters Acylation 	 Assessed homework of carboxylic acids and derivatives End of topic test on carboxylic acids and derivatives with cumulative knowledge from year 12 Organic chemistry content and aldehydes and ketones Required practical 10: Preparation of a pure organic solid and test of its purity. Preparation of a pure organic liquid.
	T1: Aromatic Chemistry	Bonding of BenzeneElectrophilic substitution of benzene	 Assessed homework on aromatic chemistry End of topic test on aromatic chemistry with cumulative knowledge from year 12 organic chemistry, optical isomerism, aldehydes and ketones and carboxylic acids and derivatives
	T2: Electrochemistry	 Electrode potentials and cells Commercial applications of electrochemical cells 	 Assessed homework on electrode potentials Assessed homework on commercial applications Required practical 8: Measuring the EMF of an electrochemical cell End of topic test on electrochemistry with cumulative knowledge on Kc, equilibrium and redox.
3	T1: Amines	 Preparation of Amines Base properties of Amines Nucleophilic properties and the mechanism of substitution reactions Nucleophilic addition – elimination reactions 	 Assessed homework on amines End of topic test on amines with cumulative knowledge from year 12 organic chemistry
	T1: Polymers	 Condensation Polymers Biodegradability and disposal of polymers 	Assessed homework on polymers
	T2: Transition Metals and Reactions of lons in Aq. Solution	 General properties of transition metals Substitution reactions Shapes of complex ions Formation of coloured ions Variable oxidation states Catalysts Reactions of ions in aqueous solution 	 Assessed homework on general properties, substitutions, shapes and colours. Assessed homework on variable oxidation states and catalysts Assessed homework on reactions of ions Required Practical 11: Carry out simple test tube reactions to identify transition metal ions in aqueous solution End of topic test on transition metals and reactions of ions with cumulative knowledge on group 2, 7 and periodicity.
	T1: Amino Acids, Proteins and DNA	 Amino acids Proteins Enzymes DNA Action of anticancer drugs 	 Assessed homework on amino acids, protein and DNA End of topic test on polymers and amino acids, protein and DNA with cumulative knowledge from Carboxylic acids and their derivatives and amines
4	T1: Acids and Bases	 Action of anticalicer drugs Bronsted-Lowry acid-base equilibria and definition of pH Ionic product of water Weak acids and bases PH curves, titrations and indicators Buffers 	 Assessed homework on acids and bases End of topic test on acids and bases amino acids, protein and DNA with cumulative knowledge from Atomic Structure and Amount of Substance Required practical 9 – investigate how pH changes when a weak acid reacts with a strong base and when a strong acid reacts with a weak base.
	T2: Rate Equations	Rate equationsDetermination of rate equations	 Assessed homework on rate equations Assessed homework on Arrhenius Required Practical 7: Measure the rate of reactions by initial and continuous rates End of topic test on rate equations with cumulative knowledge on kinetics
	Т2: Кр	Equilibrium constant Kp for homogeneous systems	 Assessed homework on Kp End of topic test on Kp with cumulative knowledge on Kc
5	T1: NMR	• ¹ C NMR • ¹ H NMR	 Assessed nomework on NMR End of topic test on NMR with cumulative knowledge from year 12 and year 13 organic chemistry
	T1: Organic synthesis T2: Period 3	Four step synthesis Properties of period 3 elements and	Assessed homework on organic synthesis Assessed homework on period 3 oxides with cumulative knowledge on periodicity
	Oxides T2	their oxides Thin layer chromatography, column	Required Practical 12: Separation of species by thin-layer chromatography.
	Chromatography	chromatography and gas chromatography	Examinations sourcing all contact from user 12 and user 12 Chamilton
6	Revision and exam skills	chemistry.	commanders covering an content from year 12 and year 13 Chemistry