

## Curriculum Map 2021-2022: A2 Level Chemistry

### Year Overview

	AZN (x4)	MBI (x2)
Autumn 1	<i>Unit 3.1 Physical chemistry:</i> Thermodynamics	<i>Unit 3.2 Inorganic chemistry:</i> Period 3 <i>Unit 3.2 Inorganic chemistry:</i> Transition metals
Autumn 2	<i>Unit 3.1 Physical chemistry:</i> Rate equations and K <sub>p</sub> <i>Unit 3.1 Physical chemistry:</i> Electrode Potentials <i>Unit 3.1 Physical chemistry:</i> Acids and Bases	<i>Unit 3.3 Organic chemistry:</i> Isomerism and Carbonyl compounds
Spring 1	<i>Unit 3.3 Organic chemistry:</i> Aromatic chemistry <i>Unit 3.3 Organic chemistry:</i> Amines, Polymers, Amino Acids and DNA	<i>Unit 3.3 Organic chemistry:</i> Isomerism and Carbonyl compounds
Spring 2	<i>Unit 3.3 Organic chemistry:</i> Further synthesis and Analysis (Organic synthesis and NMR)  Revision	<i>Unit 3.3 Organic chemistry:</i> Further synthesis and Analysis (Chromatography)  Revision
Summer 1	Exam Preparation	Exam Preparation
Summer 2		

			AZN (X4)	MBI (X2)	Homework	Assessment
Autumn 1	30/08/2021	Week 1				
	06/09/2021	Week 2	<i>Physical chemistry Thermodynamics:</i> Born-Haber Cycle  <i>Physical chemistry Thermodynamics:</i> Born-Haber Cycle	<i>Inorganic Chemistry: Period 3</i> - Period 3 Trends and Reactions	Exam Questions	
	13/09/2021	Week 3	<i>Physical chemistry Thermodynamic:</i> Born-Haber Cycle  <i>Physical chemistry Thermodynamics:</i> Born-Haber Cycle	<i>Inorganic Chemistry: Period 3</i> - Period 3 Trends and Reactions <b>Revision and Assessment</b>	Exam Questions	Inorganic Chemistry Period 3 topic test
	20/09/2021	Week 4	<i>Physical chemistry Thermodynamic:</i> Purely Ionic Model  <i>Physical chemistry Thermodynamic:</i> Entropy and Gibbs-Free Energy	<i>Inorganic Chemistry: Period 3</i> - Period 3 Trends and Reactions <b>Feedback + DIRT</b>	Exam Questions	
	27/09/2021	Week 5	<i>Physical chemistry Thermodynamic:</i> Entropy and Gibbs-Free Energy  <i>Physical chemistry Thermodynamic:</i> Revision	<i>Inorganic Chemistry: Transition metals</i> - Properties of Transition Metals	Exam Questions	
	04/10/2021	Week 6	<i>Physical chemistry Thermodynamic:</i> <b>Assessment</b> <i>Physical chemistry Thermodynamic:</i> <b>Feedback + DIRT</b>	<i>Inorganic Chemistry: Transition metals</i> – Shapes of Complex Ions and Isomerism	Exam Questions	Physical Chemistry Thermodynamic topic test
	11/10/2021	Week 7	<i>Physical Chemistry: Rates and Kp</i> - Rate Equations  <i>Physical Chemistry: Rates and Kp</i> – Rate Determining Step	<i>Inorganic Chemistry: Transition metals</i> – Substitution Reactions	Exam Questions	
	18/10/2021	Week 8	<i>Physical Chemistry: Rates and Kp</i> - Arrhenius Equation  <i>Physical Chemistry: Rates and Kp</i> - Revision	<i>Inorganic Chemistry: Transition metals</i> – Coloured Ions and Colorimetry	Exam Questions	
	01/11/2021	Week 9	<i>Physical Chemistry: Rates and Kp</i> - REQUIRED PRACTICAL	<i>Inorganic Chemistry: Transition metals</i> – Variable Oxidation States and Titrations	Exam Questions	CPAC – Measuring rate of a reaction by an initial rate method and by a continuous monitoring method
08/11/2021	Week 10	MOCK EXAM PERIOD	MOCK EXAM PERIOD			
15/11/2021	Week 11	MOCK EXAM PERIOD	MOCK EXAM PERIOD			

	22/11/2021	Week 12	MOCK EXAM PERIOD	MOCK EXAM PERIOD		
	29/11/2021	Week 13	<b>Physical Chemistry: Rates and Kp</b> – Kp <b>Physical Chemistry: Rates and Kp</b> Revision	<b>Inorganic Chemistry: Transition metals</b> – Catalysts Revision	Exam Questions	Physical Chemistry Rates and Kp topic test
	06/12/2021	Week 14	<b>Physical Chemistry: Rates and Kp: Assessment</b> <b>Physical Chemistry: Rates and Kp: Feedback + DIRT</b>	<b>Inorganic Chemistry: Transition metals</b> – Ions Reacting in Aqueous Solution	Exam Questions	
	13/12/2021	Week 15	<b>Physical Chemistry: Electrode potentials-</b> Electrochemical Cells and Notation <b>Physical Chemistry: Electrode potentials-</b> EMF and REDOX	<b>Inorganic Chemistry: Transition metals</b> – REQUIRED PRACTICAL	Exam Questions	CPAC – Carry out simple test tube reactions to identify transition metal ions in aqueous solution
Spring 1	03/01/2022	Week 16	<b>Physical Chemistry: Electrode potentials-</b> Commercial Applications of EC Cells <b>Physical Chemistry: Electrode potentials-</b> REQUIRED PRACTICAL and Revision	<b>Inorganic Chemistry: Transition metals-</b> Revision	Exam Questions	CPAC – Measuring the EMF of an electrochemical cell
	10/01/2022	Week 17	<b>Physical Chemistry: Electrode potentials-</b> Assessment <b>Physical Chemistry: Electrode potentials-</b> Feedback + DIRT	<b>Inorganic Chemistry: Transition metals-</b> Assessment	Exam Questions	Physical chemistry Electrode potentials topic test
	17/01/2022	Week 18	<b>Physical Chemistry: Acids and Bases-</b> Bronsted-Lowry Acids and Bases <b>Physical Chemistry: Acids and Bases-</b> pH and Calculations	<b>Inorganic Chemistry: Transition metals</b> Feedback and DIRT	Exam Questions	Inorganic Chemistry Transition metals topic test
	24/01/2022	Week 19	<b>Physical Chemistry: Acids and Bases-</b> Kw and Strong Bases <b>Physical Chemistry: Acids and Bases-</b> Weak acids and Ka	<b>Organic Chemistry: Isomerism and carbonyl compounds</b> – Optical Isomerism and Racemates	Exam Questions	
	31/02/2022	Week 20	<b>Physical Chemistry: Acids and Bases-</b> Titration and pH Curves <b>Physical Chemistry: Acids and Bases-</b> REQUIRED PRACTICAL	<b>Organic Chemistry: Isomerism and carbonyl compounds</b> – Aldehydes, Ketones and Tests	Exam Questions	CPAC – investigate how pH changes when a weak acid reacts with a strong base and when a strong acid reacts with a weak base
	07/02/2022	Week 21	<b>Physical Chemistry: Acids and Bases-</b> Buffer Solutions <b>Physical Chemistry: Acids and Bases-</b> Revision	<b>Organic Chemistry: Isomerism and carbonyl compounds</b> – Carboxylic acids and Esters	Exam Questions	
	14/02/2022	Week 22	<b>Physical Chemistry: Acids and Bases -Assessment</b> <b>Physical Chemistry: Acids and Bases -Feedback and DIRT</b>	<b>Organic Chemistry: Isomerism and carbonyl compounds</b> – Uses of esters	Exam Questions	Physical Chemistry Acids and Bases topic test

Spring 2	28/02/2022	Week 23	<b>Organic chemistry: aromatics</b> - Structure and Reactivity  <b>Organic chemistry: aromatics</b> – Electrophilic Substitution	<b>Organic Chemistry: Isomerism and carbonyl compounds</b> - Acyl chlorides	Exam Questions	
	07/03/2022	Week 24	<b>Organic chemistry: aromatics</b> Revision  <b>Organic chemistry: aromatics</b> Assessment	<b>Organic Chemistry: Isomerism and carbonyl compounds</b> - Purifying organic compounds	Exam Questions	Organic chemistry aromatics topic test
	14/03/2022	Week 25	<b>Organic chemistry: aromatics</b> - Feedback and DIRT  <b>Organic chemistry: Amines, polymers, Amino acids and DNA</b> – Amines and Amides	<b>Organic Chemistry: Isomerism and carbonyl compounds</b> - REQUIRED PRACTICAL	Exam questions	CPAC – Preparation of a pure organic solid and test its purity against a pure organic liquid
	21/03/2022	Week 26	<b>Organic chemistry: Amines, polymers, Amino acids and DNA</b> – Reactions of Amines  <b>Organic chemistry: Amines, polymers, Amino acids and DNA</b> – Recap of Addition Polymerisation	<b>Organic Chemistry: Isomerism and carbonyl compounds</b> -Revision	Exam Questions	
	28/03/2022	Week 27	<b>Organic chemistry: Amines, polymers, Amino acids and DNA</b> – Condensation Polymers  <b>Organic chemistry: Amines, polymers, Amino acids and DNA</b> – Biodegradability	<b>Organic Chemistry: Isomerism and carbonyl compounds</b> - Assessment	Exam Questions	Organic chemistry Isomerism and carbonyls test
	04/04/2022	Week 28	<b>Organic chemistry: Amines, polymers, Amino acids and DNA</b> – Amino Acids, Polypeptides and Proteins  <b>Organic chemistry: Amines, polymers, Amino acids and DNA</b> – Enzymes, DNA and Cis-Platin	<b>Organic Chemistry: Isomerism and carbonyl compounds</b> - Feedback and DIRT	Exam Questions	
Summer 1	25/04/2022	Week 29	<b>Organic chemistry: Amines, polymers, Amino acids and DNA</b> – Revision  <b>Organic chemistry: Amines, polymers, Amino acids and DNA</b> – Assessment	<b>Organic Chemistry: Further synthesis and analysis (Chromatography)</b> - Chromatography (TLC, GC and HPLC)	Exam Questions	Organic chemistry Amines, polymers, amino acids and DNA test
	02/05/2022	Week 30	<b>Organic chemistry: Amines, polymers, Amino acids and DNA</b> – Feedback + DIRT	<b>Organic Chemistry: Further synthesis and analysis (Chromatography)</b> REQUIRED PRACTICAL	Exam Questions	CPAC – Separation of species by TLC
	09/05/2022	Week 31	<b>Organic chemistry: Further synthesis and Analysis (Organic synthesis and NMR)</b> - Organic Synthesis and Consolidation	<b>Further synthesis and analysis (Chromatography)</b> - Revision	Exam Questions	
	16/05/2022	Week 32	<b>Organic chemistry: Further synthesis and Analysis (Organic synthesis and NMR)</b> – Carbon NMR  <b>Organic chemistry: Further synthesis and Analysis (Organic synthesis and NMR)</b> – Hydrogen NMR	<b>Further synthesis and analysis (Chromatography)</b> - Revision	Exam Questions	

	23/05/2022	Week 33	<i>Organic chemistry: Further synthesis and Analysis (Organic synthesis and NMR) – Revision</i> <i>Organic chemistry: Further synthesis and Analysis (Organic synthesis and NMR) - Assessment</i>	<i>Further synthesis and analysis (Chromatography) - Revision</i>	Exam Questions	Organic Chemistry: Further synthesis and analysis
Summer 2	06/06/2022	Week 34	<i>Organic chemistry: Further synthesis and Analysis (Organic synthesis and NMR) – Feedback + DIRT</i>		Exam Questions	
	13/06/2022	Week 35			<b>EXAM PREP</b>	<b>EXAM PREP</b>
	20/06/2022	Week 36			<b>PRELIMINARY EXAM DATES</b>	<b>PRELIMINARY EXAM DATES</b>
	27/06/2022	Week 37			<b>PRELIMINARY EXAM DATES</b>	<b>PRELIMINARY EXAM DATES</b>
	04/07/2022	Week 38				
	11/07/2022	Week 39				
	18/07/2022	Week 40				