

EzyChemistry – Edexcel course outline

L = Video Lecture A = Assessment EX = Experiment

Section 1 – Key concepts

Code	Title	Activity
Module 1 - Atoms and the Periodic Table		
1.1.1	Atomic Structure	L
1.1.2	Mass Number, Atomic Number and Isotopes	L
1.1.3	The Development of the Model of the Atom	L
1.1a	The Atom	A
1.2	Relative Atomic Mass	L
1.2a	Relative Atomic Mass	A
1.3.1	History of the Periodic Table	L
1.3.2	The Periodic Table	L
1.3.3	Electronic Structure and the Periodic table	L
1.3a	The Periodic Table	A
Module 2 - Bonds		
2.1.1	Ionic Bonding	L
2.1.2	Ionic Compounds	L
2.1a	Ionic Bonding and Compounds	A
2.2.1	Covalent Bonding	L
2.2.2	Covalent Substances	L
2.2a	Covalent Bonding and Substances	A
2.3	Metallic Bonding and Structures	L
2.3a	Metallic Bonding and Structures	A
2.4	Forms of Carbon	L
2.4a	Forms of Carbon	A
Module 3 - Chemical Calculations		
3.1.1	Balanced Chemical Equations	L
3.1.2	Relative Formula Mass	L
3.1a	Equations and Formula Masses	A
3.2.1	Mass Changes	L
3.2.2	Chemical Measurements	L
3.2a	Mass Changes and Chemical Measurements	A
3.3	Empirical formulae	L
3.3a	Empirical formulae	A
3.4	Concentrations of Solutions	L
3.4a	Concentrations of Solutions	A

3.5.1	Moles	L
3.5.2	Masses of Reactants and Products	L
3.5.3	Using Moles to Balance Equations	L
3.4a	Moles	A

Section 2 – States of Matter and Mixtures

Module 1 - States of Matter and Mixtures

1.1	States of Matter	L
1.1a	States of Matter	A
1.2.1	Pure Substances and Mixtures	L
1.2.2	Separating Mixtures	L
1.2.3	Distillation	L
1.2a	Pure Substances and Mixtures	A
1.3	Chromatography	EX
1.3a	Chromatography	A
1.3b	Chromatography	A
1.4	Treating Water	L
1.4a	Treating Water	A

Section 3 – Chemical Changes

Module 1 - Acids

1.1	Acids and Alkalis	L
1.1a	Acids and Alkalis	A
1.2	The pH Scale	L
1.2a	The pH Scale	A
1.3	Investigating Neutralisation	EX
1.3a	Investigating Neutralisation	A
1.3b	Investigating Neutralisation	A
1.4	Acids, Bases and Salts	L
1.4a	Acids, Bases and Salts	A
1.5	Making Soluble Salts	L
1.5a	Making Soluble Salts	A
1.6	Producing Soluble Salts	EX
1.6a	Producing Soluble Salts	A
1.6b	Producing Soluble Salts	A
1.7	Producing Insoluble Salts	L
1.7a	Producing Insoluble Salts	A

Module 2 - Electrolysis

2.1	Electrolysis of Molten Ionic Compounds	L
2.1a	Electrolysis of Molten Ionic Compounds	A

2.2.1	Electrolysis of Aqueous Solutions (Theory)	L
2.2.2	Electrolysis of Aqueous Solutions (Examples)	L
2.2a	Electrolysis of Aqueous Solutions	A
2.3.1	Electrolysis of Aqueous Copper Sulfate with Inert Electrodes	EX
2.3.2	Electrolysis of Aqueous Copper Sulfate with Copper Electrodes	EX
2.3.3	Analysis of Electrolysis of Aqueous Copper Sulfate with Copper Electrodes	EX
2.3a	Electrolysis of Aqueous Copper Sulfate	A
2.3b	Electrolysis of Aqueous Copper Sulfate	A
2.4	Oxidation, Reduction and Half Equations	L
2.4a	Oxidation, Reduction and Half Equations	A

Section 4 – Extracting Metals

Module 1 - Reactivity of Metals

1.1.1	Reactivity	L
1.1.2	Displacement Reactions	L
1.1a	The Reactivity Series	A
1.1b	The Reactivity Series	A
1.2	Extraction of Metals	L
1.2a	Extraction of Metals	A
1.3	Biological Methods of Extracting Metals	L
1.3a	Biological Methods of Extracting Metals	A
1.4	Balancing Equations	L
1.4a	Balancing Equations	A
1.5	Oxidation and Reduction	L
1.5a	Oxidation and Reduction	A
1.6	Recycling and Life Cycle Assessments	L
1.6a	Recycling and Life Cycle Assessments	A

Module 2 - Reversible Reactions and Dynamic Equilibria

2.1	Reversible Reactions and Dynamic Equilibria	L
2.1a	Reversible Reactions and Dynamic Equilibria	A
2.2	Factors Affecting Dynamic Equilibria	L
2.2a	Factors Affecting Dynamic Equilibria	A

Section 5 – Separate Chemistry 1

Module 1 - Transition Metals, Corrosion and Alloys

1.1	Properties of Transition Metals	L
1.1a	Properties of Transition Metals	A
1.2.1	Corrosion	L
1.2.2	Electroplating	L
1.2a	Corrosion	A
1.3	Alloys	L
1.3a	Alloys	A

Module 2 - Quantitative analysis

2.1	Acid-Alkali Titrations	EX
2.1a	Acid-Alkali Titrations	A
2.1b	Acid-Alkali Titrations	A
2.2.1	Concentration and Molar Concentration	L
2.2.2	Titration Calculations	L
2.2a	Titration Calculations	A
2.3	Yields	L
2.3a	Yields	A
2.4	Calculating Theoretical Yields	L
2.4a	Calculating Theoretical Yields	A
2.5	Atom Economy	L
2.5a	Atom Economy	A
2.6	Reaction Pathways	L
2.6a	Reaction Pathways	A
2.7	Volumes of Gases	L
2.7a	Volumes of Gases	A

Module 3 - Dynamic Equilibria and Cells

3.1	The Haber process	L
3.1a	The Haber process	A
3.2	Fertilisers	L
3.2a	Fertilisers	A
3.3.1	Cells and Batteries	L
3.3.2	Fuel Cells	L
3.3a	Cells	A

Section 6 – Groups, Rates and Energy Changes
Module 1 - Groups in the Periodic Table

1.1.1	Group 0	L
1.1.2	Group 1	L
1.1.3	Group 7	L
1.1a	Groups 0, 1 and 7	A

Module 2 - Rates of Reaction

2.1	Rates of Reaction	L
2.1a	Rates of Reaction	A
2.2	Calculating Rates of Reaction	L
2.2a	Calculating Rates of Reaction	A

2.3.1	Investigating Rates of Reaction (Concentration)	EX
2.3.2	Investigating Rates of Reaction (Temperature)	EX
2.3a	Investigating Rates of Reaction	A
2.3b	Investigating Rates of Reaction	A
2.4.1	Collision Theory and Activation Energy	L
2.4.2	Factors Affecting Rates of Reaction	L
2.4.3	Catalysts	L
2.4a	Factors Affecting Rates of Reaction	A

Module 3 - Energy Changes

3.1	Exothermic and Endothermic Reactions	EX
3.1a	Exothermic and Endothermic Reactions	A
3.1b	Exothermic and Endothermic Reactions	A
3.2	Reaction Profiles	L
3.2a	Reaction Profiles	A
3.3	Calculating Energy Changes	L
3.3a	Calculating Energy Changes	A

Section 7 – Fuels and earth science

Module 1 - Fuels and Earth Science

1.1.1	Hydrocarbons	L
1.1.2	Alkanes	L
1.1.3	Crude Oil	L
1.1.4	Cracking	L
1.1a	Crude Oil and Hydrocarbons	A
1.2	Atmospheric Pollution	L
1.2a	Atmospheric Pollution	A
1.3.1	History of the Atmosphere	L
1.3.1	The Greenhouse Effect	L
1.3.2	Global Climate Change	L
1.3a	The Atmosphere	A

Section 8 – Separate Chemistry 2

Module 1 - Identification of ions

1.1	Chemical Tests for Ions	EX
1.1a	Chemical Tests for Ions	A
1.1b	Chemical Tests for Ions	A
1.2.1	Instrumental Methods	L
1.2.2	Flame Emission Spectroscopy	L
1.2a	Instrumental methods and Spectroscopy	A

Module 2 - Alkenes, Alcohols and Carboxylic Acids

2.1.1	Structure of Alkenes	L
2.1.2	Reaction of Alkenes	L
2.1.3	Alcohols	L
2.1.4	Ethanol Production	L
2.1.5	Carboxylic Acids	L
2.1a	Alkenes, Alcohols and Carboxylic Acids	A
2.2	Alcohols and their use as Fuels	EX
2.2a	Alcohols and their use as Fuels	A
2.2b	Alcohols and their use as Fuels	A

Module 3 - Polymers, Nanoparticles and Materials

3.1	Addition Polymerisation	L
3.1a	Addition Polymerisation	A
3.2	Condensation Polymerisation	L
3.2a	Condensation Polymerisation	A
3.3	Natural Polymers	L
3.3a	Natural Polymers	A
3.4.1	Uses of Polymers	L
3.4.2	Problems with Polymers	L
3.4a	Uses of Polymers	A
3.5.1	Nanoparticles	L
3.5.2	Uses of Nanoparticles	L
3.5a	Nanoparticles	A
3.6.1	Ceramics, Polymers and Composites	L
3.6.2	Comparing Materials	L
3.6a	Ceramics, Polymers and Composites	A