
2 Specification at a glance

These qualifications are linear. Linear means that students will sit all the AS exams at the end of their AS course and all the A-level exams at the end of their A-level course.

2.1 Subject content

- 3.1 [Physical chemistry](#) page 11
 - 3.1.1 [Atomic structure](#) page 11
 - 3.1.2 [Amount of substance](#) page 13
 - 3.1.3 [Bonding](#) page 16
 - 3.1.4 [Energetics](#) page 19
 - 3.1.5 [Kinetics](#) page 20
 - 3.1.6 [Chemical equilibria, Le Chatelier's principle and \$K_c\$](#) page 22
 - 3.1.7 [Oxidation, reduction and redox equations](#) page 24
 - 3.1.8 [Thermodynamics \(A-level only\)](#) page 25
 - 3.1.9 [Rate equations \(A-level only\)](#) page 27
 - 3.1.10 [Equilibrium constant \$K_p\$ for homogeneous systems \(A-level only\)](#) page 29
 - 3.1.11 [Electrode potentials and electrochemical cells \(A-level only\)](#) page 30
 - 3.1.12 [Acids and bases \(A-level only\)](#) page 32
- 3.2 [Inorganic chemistry](#) page 34
 - 3.2.1 [Periodicity](#) page 34
 - 3.2.2 [Group 2, the alkaline earth metals](#) page 35
 - 3.2.3 [Group 7\(17\), the halogens](#) page 36
 - 3.2.4 [Properties of Period 3 elements and their oxides \(A-level only\)](#) page 38
 - 3.2.5 [Transition metals \(A-level only\)](#) page 39
 - 3.2.6 [Reactions of ions in aqueous solution \(A-level only\)](#) page 44
- 3.3 [Organic chemistry](#) page 45
 - 3.3.1 [Introduction to organic chemistry](#) page 45
 - 3.3.2 [Alkanes](#) page 47
 - 3.3.3 [Halogenoalkanes](#) page 48
 - 3.3.4 [Alkenes](#) page 49
 - 3.3.5 [Alcohols](#) page 51
 - 3.3.6 [Organic analysis](#) page 53

- 3.3.7 [Optical isomerism \(A-level only\)](#) page 54
- 3.3.8 [Aldehydes and ketones \(A-level only\)](#) page 55
- 3.3.9 [Carboxylic acids and derivatives \(A-level only\)](#) page 56
- 3.3.10 [Aromatic chemistry \(A-level only\)](#) page 57
- 3.3.11 [Amines \(A-level only\)](#) page 58
- 3.3.12 [Polymers \(A-level only\)](#) page 59
- 3.3.13 [Amino acids, proteins and DNA \(A-level only\)](#) page 60
- 3.3.14 [Organic synthesis \(A-level only\)](#) page 63
- 3.3.15 [Nuclear magnetic resonance spectroscopy \(A-level only\)](#) page 64
- 3.3.16 [Chromatography \(A-level only\)](#) page 65

2.2 AS

Assessments

Paper 1	+	Paper 2
<p>What's assessed</p> <ul style="list-style-type: none"> • Relevant Physical chemistry topics (sections 3.1.1 to 3.1.4, 3.1.6 and 3.1.7) • Inorganic chemistry (Section 3.2.1 to 3.2.3) • Relevant practical skills 		<p>What's assessed</p> <ul style="list-style-type: none"> • Relevant Physical chemistry topics (sections 3.1.2 to 3.1.6) • Organic chemistry (Section 3.3.1 to 3.3.6) • Relevant practical skills
<p>How it's assessed</p> <ul style="list-style-type: none"> • written exam: 1 hour 30 minutes • 80 marks • 50% of the AS 		<p>How it's assessed</p> <ul style="list-style-type: none"> • written exam: 1 hour 30 minutes • 80 marks • 50% of the AS
<p>Questions</p> <p>65 marks of short and long answer questions</p> <p>15 marks of multiple choice questions</p>		<p>Questions</p> <p>65 marks of short and long answer questions</p> <p>15 marks of multiple choice questions</p>