

AS/A Level GCE OCR Chemistry B (Salters) – H035, H435

Entry Criteria

Students will be expected to achieve 5 GCSE passes grades A*-C including a minimum of grades AA in Double award Science or BBB in Triple award together with a grade B in Maths and English.

Subject Content

Assessment: There is regular assessment to determine progress in accordance with the school policy

F331: Chemistry For Life (AS)

- The Elements of Life (EL) – Atomic structure, Radioactivity, Chemical equations and amount of substance, The Periodic Table, Group 2 Chemistry, Bonding and shapes of molecules
- Developing Fuels (DF) – Thermochemistry, Organic chemistry, Introduction to Entropy and Polluting exhaust emissions

Written Exam: 1 hour 15 min.
Raw marks: 60 UMS: 90
(AS level = 30%, A2 level = 15%)

F332: Chemistry of Natural Resources (AS)

- Elements from the Sea (ES) – The Halogens, Halogenoalkanes, Redox reactions, Periodicity, Bonding and Industrial Chemistry
- The Atmosphere (A) – Giant Covalent Structures, Rates of reactions, Chemical Equilibrium, Radical reactions and the interaction of radiation with matter
- Polymer Revolution (PR) – Hydrogen bonding, Alkene reactions, Addition Polymerisation, E/Z Isomerism, Alcohol reactions and Infrared Spectra

Written Exam: 1 hour 45 min.
Raw marks: 100 UMS: 150
(AS level = 50%, A2 level = 25%)

F333: Chemistry in Practice (AS)

AS internal assessment – 5 key skills are tested under controlled conditions. These are a combination of practical and written skills.

Competence (I), Measurement (II), Analysis and Evaluation (III), Observation (IV), Interpretation (V)

Internal Assessment subject to external moderation
(AS level = 20%, A2 level = 10%)

F334: Chemistry in Materials (A2)

- What's in a Medicine? (WM) – Organic Chemistry, Acid-base reactions, Medicines manufacture and testing, IR Spectroscopy and Mass Spectroscopy
- The Materials Revolution (MR) – Condensation polymers, Amines and amides, properties of Polymers and disposal of polymers

Written Exam: 1 hour 30 min.
Raw marks: 90 UMS: 90
A2 level = 15%

<ul style="list-style-type: none"> • The Thread of Life (TL) – Rates of reaction, Enzyme catalysis, Optical isomerism, Amino acid and Protein chemistry, the Structure and function of DNA • The Steel Story (SS) – Redox reactions, Electrode potentials, d-block chemistry, Colorimetry 	
<p>F335: Chemistry by Design (A2)</p> <ul style="list-style-type: none"> • Agriculture and Industry (AI) – Equilibrium and equilibrium constant, Nitrogen Chemistry, Redox reactions, Industrial Chemistry • Colour By Design (CD) – Transition metal compounds, Aromatic compounds, Analytical techniques, Dyes and dyeing • The Oceans (O) – Dissolving, Acid-base Equilibria and pH, Entropy, disposing of CO₂ • Medicines by Design (MD) – Molecular recognition, computer modelling of drugs, Organic synthesis, NMR spectroscopy 	<p>Written Exam: 2 hours Raw marks: 120 UMS: 120 A2 level = 20%</p>
<p>F336: Chemistry Individual investigations (A2)</p> <ul style="list-style-type: none"> • A2 internal assessment – 8 skill areas Student is expected to carry out a single investigation. They will be expected to spend about 18 hours of Laboratory practical work as part of the investigation 	<p>Internal Assessment subject to external moderation (A2 level = 15%)</p>
<p>Expectations</p> <p>Students are expected to undertake a minimum of 5 hours of Chemistry homework per week. In addition to this they are expected to read around the subject in advance of the lesson. Details of the learning outcomes are in their Study Guides with references to their text books. Students are expected to make accurate notes and practice past exam papers regularly. Students who are struggling with the course content are expected to approach their teacher and/or academic tutor in this subject for extra support. They must also have the correct stationary and a calculator for every lesson.</p>	
<p>Recommended Reference Books</p> <p>Chemical Ideas AS/A2 3rd Edition, Heinemann, 978-0-435631-49-9 Chemical Storyline AS 3rd Edition, Heinemann, 978-0-435631-47-5 Chemical Storyline A2 3rd Edition, Heinemann, 978-0-435631-48-2 Revise AS Chemistry for Salters New Edition, Heinemann, 978-0-435631-54-3 Revise A2 Chemistry for Salters New Edition, Heinemann, 978-0-435631-55-0 AS Level Chemistry, CGP, 978-1-84762-127-6 A2 Level Chemistry, CGP, 978-1-84762-268-6</p>	
<p>Useful websites</p> <p>http://www.ocr.org.uk/ http://www.chemguide.co.uk/</p>	

<http://www.a-levelchemistry.co.uk/>

<http://www.youtube.com/user/wwwrscorg>

<http://www.s-cool.co.uk/a-level/chemistry>

<http://www.docbrown.info/>

Careers Information

A-level Chemistry is a pre-requisite to many degree courses, particularly in the medical and biomedical fields. This can also lead to studies in Chemical Engineering, Forensic Science, Pharmacology, Environmental studies, Teaching, Law, Accountancy and many others