

Curriculum Information for Parents

Key Stage 5 Chemist

Learning Leader Contact Information:

Phone: 01604 862125

Examination Board

OCR A

Specification Code

Subject Content

The OCR course builds on concepts and skills that have been developed at GCSE. It presents chemistry as an exciting, relevant

OCR's A Level in Chemistry A specification aims to encourage learners to:

- 1) Develop essential knowledge and understanding of different areas of the subject and how they relate to each other
- 2) Develop and demonstrate a deep appreciation of the skills, knowledge and understanding of scientific methods
- 3) Develop competence and confidence in a variety of practical, mathematical and problem solving skills
- 4) Develop their interest in and enthusiasm for the subject, including developing an interest in further study and careers
- 5) Understand how society makes decisions about scientific issues and how the sciences contribute to the success of the

Module 1 - Development of practical skills in chemistry

Practical skills assessed in a written examination

Practical skills assessed in the practical endorsement

Module 2 - Foundations in chemistry

Atoms, compounds, molecules and equations

Amount of substance

Acid-base and redox reactions

Electrons, bonding and structure

Module 3 - Periodic table and energy

The periodic table and periodicity

Group 2 and the halogens

Qualitative analysis

Enthalpy changes

Reaction rates and equilibrium (qualitative)

Module 4 - Core organic chemistry

Basic concepts

Hydrocarbons

Alcohols and haloalkanes

Organic synthesis

Analytical techniques (IR and MS)

Module 5 - Physical chemistry and transition elements

Reaction rates and equilibrium (quantitative)

pH and buffers

Enthalpy, entropy and free energy

Redox and electrode potentials

Transition elements

Module 6 - Organic chemistry and analysis

Aromatic compounds

Carbonyl compounds

Carboxylic acids and esters

Nitrogen compounds

Polymers

Organic synthesis

Chromatography and spectroscopy (NMR)

Additional Equipment Required:

White Laboratory Coat, Scientific Calculator

Assessment Details

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Written Examination Papers:

Component One - Period Table, Elements and Physical Chemistry (Modules 1, 2, 3 and 5) - 37%. 100 marks, 135 minutes.

Component Two - Synthesis and Analytical Techniques (Modules 1, 2, 4 and 6) - 37%. 100 marks, 135 minutes.

Component Three - Unified Chemistry (Modules 1, 2, 3, 4, 5 and 6) - 26%. 70 marks, 90 minutes.

Practical Endorsement:

Development of practical skills underpins the whole specification, and covers the practical skills that students will gradually develop through hands-on practical work throughout the course. There are a minimum of 12 practical activities that will be assessed as either a Pass/Not reported at the end of the two year course.

What can I do to support my child at home?

- Make sure your son or daughter eats well and sleeps well and assist them in finding a work/social life balance
- Ensure that all homework tasks are completed in full and on-time
- Encourage your child to review/revise topics on an on-going basis
- Assist in planning out revision timetables for all trial and external examinations
- Have conversations about what they are doing in Chemistry and how it relates to real life

Recommended resources for the course:

Textbooks:

A Level Chemistry for OCR A - Rob Ritchie and Dave Gent (provided by the school)

A Level Chemistry for OCR A Books 1 and 2 - Sam Holyman, David Scott, Victoria Stutt

CPG A Level Revision Guide for OCR A

Past Examination Papers - available on the OCR website

Teaching Staff Contact Details

Name	Role
Dr. Carolyn Radford (South Campus)	Assistant Headteacher Teacher of Science /Chemistry Carolyn.radford@ewsacademy.org.uk
Mr. Nigel Burns (North Campus)	Teacher of Science / Chemistry Nigel.burns@ewsacademy.org.uk

Additional Information:

Chemistry touches nearly every facet of life. Everyday materials, medicines and microchips are all developed with the expertise of professional chemists. The study of chemistry is diverse; from plastics, fuels and drug molecules, to extracting and processing metals, understanding our complex atmosphere and explaining how our oceans have a huge impact on our weather patterns.

Chemistry also allows the development of a wide range of skills, including analytical, mathematical and evaluative, which makes chemists highly desirable in a very wide range of professions.

Possible careers which require chemistry at A Level include: medicine, veterinary science, pharmacy and pharmacology, biochemistry, chemical engineering, materials science, environmental science, metallurgy and chemical synthesis.

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