

Chemistry

Advanced Higher

Recommended Entry Requirements

A to C at
Higher
Chemistry



Course Content

Inorganic chemistry

- electromagnetic radiation and atomic spectra
- atomic orbitals
- electronic configurations and the periodic table
- transition metals

Physical chemistry

- chemical equilibrium
- reaction feasibility
- kinetics

Organic chemistry and instrumental analysis

- molecular orbitals
- synthesis
- stereo chemistry
- experimental determination of structure
- pharmaceutical chemistry

Researching chemistry

- common chemical apparatus
- skills involved in experimental work
- stoichiometric calculations
- gravimetric analysis
- volumetric analysis
- practical skills and techniques

Skills Developed

- extending and applying knowledge of chemistry to new situations, interpreting and analysing information to solve complex problems
- planning and designing chemical experiments/investigations, including risk assessments, to make a discovery, demonstrate a known fact, illustrate particular effects or test a hypothesis
- carrying out complex experiments in chemistry safely, recording systematic detailed observations and collecting data
- selecting information from a variety of sources and presenting detailed information appropriately, in a variety of forms
- processing and analysing chemical information and data (using calculations, significant figures and units, where appropriate)
- making reasoned predictions and generalisations from a range of evidence and/or information
- drawing valid conclusions and giving explanations supported by evidence and/or justification
- critically evaluating experimental procedure by identifying sources of uncertainty and suggesting and implementing improvements drawing on knowledge and understanding of chemistry to make accurate statements, describe complex information, provide detailed explanations and integrate knowledge
- communicating chemical findings and information fully and effectively
- analysing and evaluating scientific publications and media reports

Assessment

Written Exam

3 hours in total, 80% of overall grade

Project

20% of overall grade

Related Careers

A qualification in Chemistry can lead to careers in medicine, pharmacy, scientific research, environmental protection, engineering and scientific manufacturing (e.g. fragrances, cosmetics).

Cindy Crawford, Margaret Thatcher, Dennis Bergkamp and Angela Merkel all have degrees relating to Chemistry!

