CHEMISTRY

A LEVEL

OCR

Entry Requirements	**Trilogy Science 6-6 or 6 in Chemistry for Triple science. GCSE Maths Grade 5 (Higher) essential, GCSE English Grade 5 desirable**
Head of Department or Course Contact	**Miss H Moore Mrs R Cooper**
Contact E-Mail Address	**hmoore@stedmunds.org rcooper@stedmunds.org**

Brief introduction to subject:

Chemistry addresses critical challenges in society today, from developing new energy sources, synthesising new drugs and nano materials to tackling local and global environmental problems. Chemistry combines well with the other sciences, maths and other technical subjects and is a good choice if you enjoyed it at GCSE.

Progression to Career/ University Courses:

Chemistry is one of the subjects that, when studied in depth, will equip you effectively for the multidisciplinary world beyond A level. As well as developing your core knowledge of the subject you will develop a variety of skills that will enhance your employability or tertiary education post 18 regardless of course followed. Chemistry is particularly useful if considering following any scientific pathway and is essential for medical, pharmacy and environmental monitoring careers.

Year 12

Module 1 - Development of practical skills: (planning, implementing, analysis and evaluation) Students carry out a series of practicals on (1) Mole determination (2) acid-base titration, (3) Enthalpy changes, (4) Qualitative analysis and (5) synthesis of an organic liquid These are carried out throughout the year. Unlike previous years these practical tasks do not contribute to the assessment of the AS award

Module 2 - Foundations in chemistry

Includes: Atoms compounds molecules and equations; Electrons, bonding and structure; Amount of substance; Acid-base and redox reactions

Module 3 - The Periodic table and energy	**Module 4 Core organic chemistry**
Includes: The periodic table and periodicity Group 2 and Group 7 Qualitative analysis Enthalpy changes Rates and Equilibrium (qualitative)	Includes Basic concepts Hydrocarbons Alcohols and Haloalkanes Organic synthesis Analytical techniques (IR, MS).

Information regarding Assessment: The AS award is assessed by two examination papers

Paper 1: Breadth in chemistry: 70 mark total (1hr 30 mins) weighting: 50%

Section A - Multiple choice (20 mark)

Section B - Structured questions covering theory and practical skills (50 mark)

Paper 2: Depth in chemistry: 70 mark total (1hr 30 mins) weighting: 50%

Structured questions and extended response questions covering theory and practical skills (70 mark)

Year 13

Module 1 - Development of practical skills

(planning, implementing, analysis and evaluation)

Students carry out a series of practicals on (6) Synthesis of an organic solid, (7) Qualitative analysis of organic functional groups, (8) Electrochemical cells, (9) Monitoring the rate of a chemical reaction. They will also carry out unscaffolded investigations on (10) initial reaction rates and (11) pH measurement as well as a research task(12)

Module 5 Physical chemistry and transition elements	**Module 6 organic chemistry and analysis**
Includes: Rates of reaction and Equilibrium (quantitative); pH and buffers; Enthalpy, entropy and free energy; Redox and electrode potentials; Transition elements	Includes: Aromatic compounds; Carbonyl compounds; Carboxylic acids and esters; Nitrogen compounds; Polymers; Organic synthesis; Chromatography and spectroscopy (NMR)

Information regarding Assessment: The A Level award is assessed by three examination papers

Paper 1: Periodic table, elements and physical chemistry: 100 mark total (2hr 15 mins) weighting:37%

Section A - Multiple choice (15 mark)

Section B - Structured questions covering theory and practical skills (85 mark)

Paper 2: Synthesis and analytical techniques: 100 mark total (2hr 15 mins) weighting: 37%

Section A - Multiple choice (15 mark)

Section B - Structured questions covering theory and practical skills (85 mark)

Paper 3: Unified chemistry: 70 mark total (1hr 30 mins) weighting: 26%

Structured questions and extended response questions covering theory and practical skills (70 mark)

Non Exam assessment.

In addition to the A level reported grade there will be a separate statement called **Practical Endorsement for Chemistry** - **Pass/ Fail** included on the certificate. This will be awarded when the student has successfully completed the twelve practical tasks set out in module 1. This is a teacher assessed, moderated component.