Southend High School for Girls
Sixth FORM

Course outline

Head of subject:
Mrs N Aylen

Minimum entry requirements:
Grade 7 or higher in GCSE Triple Science (Chemistry) or a grade 7-7 in Double Science. Also required, Grade 6 in Mathematics

Chemistry

What will you study in Year 12?

You will learn about atomic structure, bonding, shapes of molecules, trends in the periodic table, energetics, rates of reaction, equilibria, alkanes, alkenes, alcohols, halogenoalkanes, organic reaction mechanisms and analytical techniques. Some of these are areas that you have studied in GCSE chemistry, however, you now have the opportunity to develop your understanding further and begin to make sense of the world around you. Set practicals will be carried out throughout the year that will need to be undertaken as they will form part of your final examination in year 13.

What will you study in Year 13?

In your second year you will extend your knowledge further by studying topics including Thermodynamics, organic chemistry looking at carbonyl compounds, benzene and phenol, nitrogen based organic molecules as well as organic reaction mechanisms, Brønsted-Lowry theory of acids, kinetics, transition metals and their complexes and further analytical techniques such as NMR that are carried out by Chemists. Many of the topics studied in year 13 build on the material that you studied in year 12. Again, set practical tasks will be carried out throughout the year and these along with year 12 practical tasks will be questioned in the final examinations.

How will you be assessed during the course?

In school assessments – You will carry out regular in school assessments covering the most recent units that you have studied as well a previous material. Homework is examination questions as well as preparing ahead for future lessons that will help develop your understanding. Termly cumulative assessments will also be carried out focusing on the two sides of the course.

External assessments – At the end of year 13 you will sit three external assessments

Paper 1 – Periodic table, elements and physical chemistry. Modules 1, 2, 3 and 5. 37% of the total A level grade, 2 hours 15 minutes long, 100 marks available

Paper 2 – Synthesis and analytical techniques. Modules 1, 2, 4 and 6. 37% of the total A level grade, 2 hours 15 minutes long, 100 marks available.

Paper 3 – Unified chemistry. Modules 1, 2, 3, 4, 5 and 6. 26% of the total A level grade, 1 hour 30 minutes long, 70 marks available.

A mark for practical skills will be awarded separately at the end of the course for those that have shown a high degree of competence in the experiments carried out over the duration of the course.

Where could this course lead?

At current time, there are over 200 university courses which accept A level Chemistry. There are many Chemistry based courses to study at university including Applied Chemistry, Chemical Engineering, Medicinal Chemistry, Organic and Inorganic Chemistry, Biochemistry and Pharmacology. Grade A in A level Chemistry is mandatory for the study of medicine, veterinary science and dentistry. Many Biological courses require A level Chemistry and it can also support those that are interested in Physics and Mathematics. Law is another course that can accept A level Chemistry as it shows that you are able to apply yourself to difficult concepts.

There are many careers where chemistry can support you due to the analytical skills obtained. Following A level chemistry, you can also enter a chemistry or science apprenticeship.

Further information

Students will follow the OCR A, A level Chemistry specification https://www.ocr.org.uk/qualifications/as-a-level-gce/chemistry-a-h032-h432-from-2015/

Support is continually available in science through chemistry open house on Tuesday lunch time. In Year 13 Monday lunch time support is available and in Year 12 Thursday lunch time support is available to develop students' examination technique through live modelling of answers.

Alongside this we celebrate Mole day annually (23rd October) and Science week where all chemistry students are actively encouraged to support and participate in the events.

Super curricular opportunities

The Chemistry department also offers support and extension via courses such as the 'Cambridge Chemistry challenge'. We also offer the opportunity to visit the Carlsberg Research Laboratory in Copenhagen a laboratory that was instrumental in the development of the pH scale. The Carlsberg Research Laboratory is one of Europe's largest and most respected centres for scientific research.