Hampton Court House

Curriculum Outline 2020/21 – Year 13 Chemistry (TJMW)

Autumn 2020
Principal Text: *Collins AQA A level Student Book 2*
The A2 chemistry course is split between organic and physical chemistry in the Autumn Term. We will begin the term by doing the required practical work that accompanies the theory we covered via remote teaching.

In organic chemistry we will begin by looking at the chemistry of benzene and then develop understanding of amines and polymers. Students will develop practical skills synthesising and purifying important pharmaceutical intermediates and practising handling more dangerous substances safely.

In physical chemistry we start by reviewing reaction rates, dynamic equilibria, pH, and buffer solutions. These are some of the more mathematically challenging topics in the A level and students will develop analytical skills working with data. In their practical work.

Spring 2021
Principal Text: *Collins AQA A level Student Book 2*
During the Spring Term, pupils study colour and catalysts whilst exploring transition metals. An emphasis is also put on analytical skills as pupils are taught the variety of techniques used to identify organic substances. Students are introduced to biochemistry by studying the chemical composition of DNA, amino acids and proteins. To finish the demands of course, students navigate reaction pathways, learning to combine reactions covered over both A-Level years to build more complex chemical structures.

Summer 2021
Principal Text: *Collins AQA A level Student Book 2*
Students spend the Summer Term revising and preparing for the A2 level examinations. They will work closely with their teachers to ensure they have a solid understanding of chemistry but also know how to approach exam-style questions.

Assessment:
The A level course is a linear structure with terminal exams at the end of Year 12 (AS) and Year 13 (A2).

Students completing the course sit three examination papers, which question their knowledge and understanding of the full two year course.

By the end of the course, students are expected to have mastered their experimental skills. They should be able to write full investigations and work safely and methodically. During the two-year course, there are twelve Required Practicals that are formally assessed.

Links with fundamental values
The fundamental values of democracy, rule of law, liberty, and respect are promoted through a strongly individualised classroom ethos.

More specifically, topics involving the chemical and pharmaceutical industries, and the effect of chemicals on the environment highlight the importance of these values.

Social, moral, spiritual and cultural content
Links to SMSC include
- Use of transition metal dyes in painting and art work
- Development of medicines and the societal effects thereof
- An understanding of the dangers to the environment posed by chemical industry and ways to mitigate these dangers
- The Scientific Method and how evidence-based decision making is vital
- The importance of contributions of scientists from various cultures, genders, and sexualities