



Hampton Court House

Curriculum Outline 2020/21 – Year 13 Biology (HLJ, ANH)

Autumn 2020

Principal Text: *AQA A-level Year 2 Biology Student Book*

This term, the students will learn the complex reactions involved in photosynthesis. They will study biological cycles such as the nitrogen and phosphorous cycle and efficiency of energy transfers in biological systems.

They then move on to genetics with a focus on dihybrid crosses, sex linkage, epigenetics and cancer.

Throughout the year, students will complete a number of assessed practicals designed test key competencies in scientific investigation.

Assessment of students' progress will be through a mixture of short quizzes in lessons and homework exercises such as question booklets, alongside lesson-to-lesson AfL, topic by topic tests and more formal mock examinations.

Students will also give short presentations to each other on topics taught in lesson to deepen and strengthen their understanding.

Emphasis will be placed on exam technique, through practice of past AQA A-level papers. There will also be lots of practise essay writing as students will need to write an essay as part of their final examinations.

Spring 2021

Principal Text: *AQA A-level Year 2 Biology Student Book*

This term the students will look at ecology, including how to sample plant and animal populations.

The students finish the course by learning about variation and selection, investigating populations, gene regulation and gene technologies.

There will be some time in this term to recap topics taught over the period of lockdown and to ensure that all the core practical activities have been completed.

Links with fundamental values

The topic of gene technology links to ideas about democracy, individual liberty and mutual respect. Gene regulation and organ transplants build links to the rule of law. Both public health and scientific debates teach students about democracy.

Social, moral, spiritual and cultural content
Genetics and evolution help teach students about the debate between science and spirituality. Gene regulation raises some interesting moral questions. The topics of communicable diseases, scientific discoveries and gene therapy have important social implications.

Summer 2021

Principal Text: *AQA A-level Year 2 Biology Student Book*

With all of the curriculum now taught, this term will be solely exam practise and revision in preparation for the final A Level examinations.

Opportunities to independently extend learning
Reading more advanced material such as undergraduate textbooks 'The Cell' and 'Epigenetics'.
Reading around the course using magazines such as Biological Science Review.
Requesting past papers from other syllabuses to experience a wider variety of question styles.
Regular consolidation of notes to check understanding.