KS5 Long Term Curriculum Plan: BTEC Science Year 13 2023-2024

Curriculum Aim: In A Level Biology we extend on the knowledge of GCSE and aim to prepare, inspire and nurture a passion for Science, whilst laying the groundwork for further study in courses such as forensic science, nursing and physiotherapy. We do this by covering a wide range of scientific knowledge and essential practical skills. This includes preparing students to be independent analytic thinkers and scientific investigators.
Link to prior learning: The subject builds on key knowledge and skills from GCSE Sciences, whilst diving deeper into key topics such as chromatography, internal energy of particles, cell theory, waves and the electronic structure of atoms.
Rationale of sequencing: We begin the year completing the Unit 8 assignments. In this unit, students explore conditions of the musculoskeletal, lymphatic and digestive system. This is a coursework based research assignment where students will be shown case studies and research causes, symptoms and treatments of the named conditions. We then move on to Unit 1 where students relearn the content to prepare for the re sit exam. Students then spend the rest of the year completing Unit 3, a larger unit with both practical and theoretical skills. Students must be able to carry out practicals independently and safely, as well as collect, analyse and evaluate their results. Throughout all topics we practice essential practical skills. Topics link from one to another, we use continuous recall starters to embed content.

	Focus / Topic	Knowledge & Skills (from NC/Programmes of Study)	Assessment
Autumn 1	Unit 8 Assignment A, B & C.	Students will learn to: 8(A) ● Describe the effect of disorder of muscles and joints and possible corrective treatments ● Explain the functional role of the musculoskeletal system in the human body ● Compare how disorders of the musculoskeletal system can affect how muscles bring about movement of joints and the importance of corrective treatment ● Evaluate the effect of corrective treatment(s) associated with a musculoskeletal disorder 8(B) ● Describe the gross anatomy and function of the organs of the lymphatic system ● Describe the effect of disorder on the lymphatic system and possible corrective treatments ● Explain the physiological reasoning for corrective treatment(s) associated with the disorder of the lymphatic system ● Evaluate the effect of corrective treatment(s) for a disorder of the lymphatic system 8(C) ● Describe the symptoms of nutrient deficiency ● Carry out investigations to establish sources and importance of key nutrients for a balanced diet ● Explain the role and location of organs involved in digestion ● Explain the use of corrective treatments for nutrient deficiency ● Analyse the role of digestive enzymes on nutrient uptake in each part of the digestive system ● Evaluate the impact of nutritional deficiency and corrective treatments used, on human health	Three coursework assignments (8A, 8B, 8C). **Assignments due w/b 18th October 2021**
Autumn 2	Unit 1 Biology Unit 1 Chemistry Unit 1 Physics	The external paper for this unit will be split into three sections. Section A – Chemistry (Structure and bonding in applications of Science, Production and uses of substances in relation to properties) Section B – Biology (Cell structure and function, Cell specialisation, Tissue structure and function) Section C – Physics (Working with waves, Waves in communication, Use of electromagnetic waves in	The external paper for this unit will be split into three sections, each worth 30 marks.

		communication) Students will cover the four assessment outcomes (AO) which will be included in their final examination. These are: ● AO1: Demonstrate knowledge of scientific facts, terms, definitions and scientific formulae ● AO2: Demonstrate understanding of scientific concepts, procedures, processes and techniques and their application ● AO3: Analyse, interpret and evaluate scientific information to make judgements and reach conclusions ● AO4: Make connections, use and integrate different scientific concepts, procedures, processes or techniques	Biology paper = 40 mins Chemistry paper = 40 mins Physics paper = 40 mins **Mock exam near Easter.** **External Exam – June 2022**
Spring 1 Spring 2 Summer 1	Unit 3 Practical and Theory	Students will cover the following content: ● Planning a scientific investigation ● Data collection, processing and analysis/interpretation ● Drawing conclusions and evaluation ● Plants and their environment ● Enzymes in action ● Diffusion of molecules ● Energy content of fuels ● Electrical circuits	External Assessment Practical Exam **(within a set window during April-May 2022)** Theory Exam **(within a set window during April-May 2022)**
Summer 2			

Further Information

The Course Specification https://filestore.aqa.org.uk/resources/biology/specifications/AQA-7401-7402-SP-2015.PDF

All topics will be assessed with an end of module exam (every 3-4 weeks). Practical skills will be assessed throughout the course during required practical's. Students are expected to complete 5 hours of additional study per week for this course.