Human Biology A Level — Key Stage 5 Curriculum Plan — Year 13

Exam Board:	*Edexcel*
Qualification:	***603/3041/7***
Assessment Information:	*Unit 3 (external exam – 3 hours) and Unit 5 (coursework)*
Link to official specification	

Department Information:

Physics, Biology and Chemistry are popular and successful subjects at Furze Platt. The Department aims to provide a supportive, stimulating, dynamic and academically challenging experience for all students. Over recent years, the Department has gone from strength to strength, and standards and students' results are high.
In Year 13, those students studying the Human Biology A-level course will receive 9 hours of Biology teaching per fortnight.

ACHIEVE in the curriculum:

*The curriculum has been designed with the ACHIEVE values at its core. Lessons have been written to encourage **ambition** and have also been written with the intent of being enjoyable and giving opportunities for students to celebrate their own successes. **Collaboration** is a key aspect of the scientific method and students will develop this and their **versatility** through required practical activities, as well as through paired and group classwork. Students will develop **integrity** through their completion of independent learning, coursework and through self-marking and peer-marking their work. Students will develop **endurance** through the completion of consolidatory activities such as past exam papers.*

*The **Pearson BTEC Level 3 National Extended Certificate in Applied Human Biology** is designed to provide students with a strong foundation in human biology and applied scientific skills. It is equivalent to one A-level and is intended for learners who are interested in pursuing careers or further study in areas like healthcare, biomedical sciences or nursing. Alternatively, it supports entry into apprenticeships or employment in healthcare, laboratory work, or related sectors.*

Curriculum Aims and Intent:

***Development of Scientific Knowledge:** The course aims to build a thorough understanding of core human biology topics, such as cells and tissues, body systems (e.g., cardiovascular, respiratory, digestive), genetics, and the immune response.*

***Focus on Health and Disease:** A major focus is on the interaction between biology and health, allowing students to explore topics like infections, immunology, and non-communicable diseases. The course emphasises real-world health issues and how human biology informs treatments and public health interventions.*

***Applied Context and Real-World Relevance:** The curriculum is designed with an applied focus, encouraging students to relate biological concepts to practical applications in healthcare, diagnostics, and clinical settings. The content is tied to real-world situations that learners may encounter in their future careers or studies.*

Practical Skills and Scientific Techniques: *Students are expected to develop hands-on skills in biological research methods, such as microscopy and microbiology, ensuring they are competent in laboratory procedures commonly used in healthcare environments.*

Analytical and Research Skills: *The course emphasises the development of skills in analysing experimental data, evaluating scientific research, and forming evidence-based conclusions. This prepares students for the rigor of higher education or professional practice.*

Interdisciplinary Learning: *The course integrates knowledge across scientific disciplines, such as biochemistry and physiology, encouraging students to understand how different systems within the human body interact and contribute to overall health.*

Key Units in the Curriculum:

Unit 1: Principles of Applied Human Biology *(Y12) covering foundational human biology, including cell structure, biochemistry, human anatomy, and systems such as the cardiovascular and respiratory systems.*

Unit 2: Practical Microbiology and Infectious Diseases *(Y12) focusing on microbiological techniques, including culturing bacteria and understanding the role of pathogens in infectious diseases.*

Unit 3: Human Biology and Health Issues *(Y13) focuses on the understanding of health issues and associated initiatives and the influence of organisations/individuals on health issues. Students will be required to interpret, analyse and evaluate scientific information and understand how health issues and initiatives are reported in different media and for different audiences.*

Unit 5: Diseases, Disorders, Treatments and Therapies *(Y13) explores biological molecules and pathways, and their relevance to diseases (physiological and psychological), disorders, treatments and therapies.*

Resources:

- Unit 3 Handbook (available from Science department)
- Unit 5 Handbook (available from Science department)

How we keep parents informed:

Year 13 - Progress reports are published 4 times per year, in October, November and February, with a face-to-face parents' evening in December.

How parents can help their child:

Assist with filing and folder organisation
Ensue that students are consolidating their learning after every lesson. Students should be spending at least 9 hours per fortnight consolidating their learning.
Encourage the completion and marking of past paper questions
Ensuring that coursework is completed, and deadlines adhered to
Encourage students to explore beyond the specification (documentaries, podcasts, reading of scientific journals, keeping abreast of scientific developments in the news)
Liaise with teachers and attend Parents' evening

What we study and when:					
Term	**Unit 3**	**Knowledge, Understanding & Skills Developed**	**ACHIEVE / Personal Development Focus**	**How The Work Is Assessed**	**Careers Links**
1	**A1 Understand health issues and associated initiatives and research**	Learners will select and apply knowledge of fundamental human biology, such as cells and tissues, human body systems and functions, immune response and genetics from Unit 1: Principles of Applied Human Biology and microorganisms and infectious diseases from Unit 2: Practical Microbiology and Infectious Diseases. They will then develop an understanding of health issues, associated initiatives and research, and potential areas for further research and development.	As above	Interim assignments in preparation for the final exam.	Healthcare Scientist Biomedical Scientist Nurse Paramedic Public Health Officer Dietitian/Nutritionist Physiotherapist Occupational Therapist Pharmacist Health Care Assistant Health Visitor Laboratory Technician Infectious Disease Specialist Medical Sales Representative Health and Safety Officer
	A2 Understand the influence of organisations/individuals on health issues	Learners will understand the influence that different organisations/individuals have on health issues and any associated initiatives and research.	As above		
2 + 3	**B1 Interpret, analyse and evaluate scientific information**	Learners will interpret, analyse and evaluate scientific information that informs health issues to make judgements on the validity of conclusions drawn, selecting and applying knowledge of scientific methods from the investigation carried out in Unit 2: Practical Microbiology and Infectious Diseases.	As above		
2 + 3	**C1 Understand how health issues and initiatives are reported in different media and for different audiences**	Learners will understand how scientific information is presented in relation to the target audience and reporting medium, and be able to synthesise relevant information for different audiences.	As above		

What we study and when:					
Term	**Unit 5**	**Knowledge, Understanding & Skills Developed**	**ACHIEVE / Personal Development Focus**	**How The Work Is Assessed**	**Careers Links**
3	**A1 Structure and function of biological molecules** **A2 Roles of proteins and lipids in maintaining physiological and psychological health**	Learners will build on their core knowledge of proteins, nucleic acids and lipids from Unit 1: Principles of Applied Human Biology to develop an understanding of the structures, formation, functions and importance of proteins, nucleic acids and lipids in maintaining physiological and psychological health.	As above	Interim coursework deadlines.	Medical Doctor Oncologist Pharmacist Nurse Physiotherapist Occupational Therapist Psychiatrist Cardiologist Endocrinologist Dermatologist Clinical Research Scientist Radiographer Laboratory Technician Rehabilitation Specialist Palliative Care Specialist Clinical Psychologist Dietitian Medical Sales Representative Neurologist Clinical Trials Coordinator
	A3 Disruption of biological processes in living organisms	Learners will explore the causes and effects of disruption to biochemical processes including: • Cancer • CHD • Diabetes • Mental health issues such as Alzheimer's disease, anxiety, psychotic disorders, personality disorders and addiction	As above	Interim coursework deadlines.	
4	**B1 Physiological diseases and disorders** **B2 Treatments for physiological diseases and disorders** **B3 Effects on the body**	Learners will understand the types of treatment, therapies and the associated benefits of each when used in relation to specific physiological diseases and disorders (e.g. Radiotherapy, Chemotherapy, Hormone therapy , Surgery, Gene therapy and Stem cell therapy). They will research the effects of each treatment option on the body.	As above	Interim coursework deadlines.	

	C1 Overview of brain structure and function **C2 Psychological diseases and disorders** **C3 Causes of psychological diseases and disorders** **C4 Treatments for psychological diseases and disorders** **C5 Effects of treatments for psychological disorders**	Learners will become familiar with the structure and functioning of the brain in order to be able to research the causes and treatments of different psychological diseases of the brain. They will also explore the effects of the treatment options available.	As above	Interim coursework deadlines.	
6	**D1 Drug and medicine discovery and development** **D2 Innovative treatments** **D3 Ethical, legal and moral issues**	Learners will explore drug discovery and development. They will also research the development of innovative treatments for physiological and psychological diseases and disorders. Learners will explore the ethical, legal and moral issues relating to treatments and drug development and testing.	As above	Interim coursework deadlines.	