

Subject: Medical Science

Year 12

Scheme of Learning 2025 - 2026

Subject leader: Mr S Brock

	Unit 1: Principles of Human Physiology, Anatomy and Pathology	Unit 2: Health Issues and Scientific Reporting	Unit 3: Practical Microbiology and Infectious Diseases	Unit 4: Diseases, Disorders, Treatments & Therapies
Year	1	1	2	2
Compulsory/optional	Compulsory	Compulsory	Compulsory	Optional (Unit 4 chosen)
Guided learning hours	90 (actual teaching hours 38)	120 (actual teaching hours 76)	90	60
Assessment method	External exam – Thurs 21 st May 2026 (1 hour 30 mins)	External exam – Thurs 14 th May 2026 (2 hours)	Internal assessment with Pearson moderation (19 hours)	Internal assessment with Pearson moderation (11 hours)
Resit opportunity (if required)	January 2027	January 2027	TBC	TBC
Lessons	4 lessons over 2 weeks	3 lessons over 2 weeks	TBC	TBC
Block 1 lessons	Unit 1 introduction 1.1 Carbohydrates 1.2 Proteins 1.3 Lipids 1.4 Nucleic acids 1.5 Cell ultrastructure Unit 1 careers	Unit 2 introduction 2.1 Diagnostic techniques for heart rate and blood pressure 2.2 Diagnostic techniques for respiratory rate and core body temperature	Unit 3 introduction inc. PSAB 3.1 Characteristics of prokaryotes 3.2 Prokaryote growth and acellular microorganisms 3.3 Methods of pathogenicity of bacteria	Unit 4 introduction inc. PSAB 4.1 Roles of proteins and lipids in maintaining physiological health 4.2 Changes to molecules and the impact on biological pathways and processes 1

	<p>Assessment PIT</p>	<p>2.3 Diagnostic techniques for tissue perfusion and blood oxygen saturation 2.4 Diagnostic techniques for the assessment of nervous system function 2.5 Diagnostic tests for genetic and chromosomal conditions during pregnancy Unit 2 careers Assessment PIT</p>	<p>3.4 Methods of pathogenicity of eukaryotes 3.5 Pathogenicity of viruses and the evolution of pathogens Unit 3 careers Assessment PIT Independent study: PSAB Planning</p>	<p>4.3 Changes to molecules and the impact on biological pathways and processes 2 4.4 Physiological diseases and disorders 4.5 Sickle cell Unit 4 careers Assessment PIT Independent study: PSAB Planning</p>
Block 2 lessons	<p>1.6 Cell ultrastructure 1.7 SA/V ratio & cell transport 1.8 The cell cycle 1.9 Respiration 1.10 Levels of organisation 1.11 The nervous system Assessment PIT</p>	<p>2.6 Innate, non-specific physical and chemical defences 2.7 Innate, non-specific biological defences 2.8 Adaptive primary immunity 1 2.9 Adaptive secondary immunity and passive immunity 2.10 Autoimmune diseases – blood tests and multiple sclerosis 2.11 Autoimmune diseases – Chron’s and rheumatoid arthritis Assessment PIT</p>	<p>3.6 Classification of bacteria, viruses and protists 3.7 Classification of infectious diseases and direct transmission of infectious agents 3.8 Indirect transmission of infectious agents 3.9 Infectious diseases – bacterial and viral 3.10 Infectious diseases – fungal, prionic and protistic Assessment PIT Independent study: PSAB Planning and drafting</p>	<p>4.6 Cancer 4.7 Neurological conditions 4.8 Treatments for cancer 4.9 Hormone therapy and surgery 4.10 Stem cell therapy 4.11 Drug and medicine discovery Assessment PIT Independent study: PSAB Planning and drafting</p>
Block 3 lessons	<p>1.12 The endocrine system 1.13 Homeostasis 1.14 The skeleton 1.15 Muscle structure 1.16 Skeletal muscle activity 1.17 The heart Assessment PIT</p>	<p>2.12 Primary and secondary immunodeficiency diseases 2.13 Allergies and allergens 2.14 Nucleic acids 2.15 Protein synthesis 2.16 Genetic mutations 2.17 Hereditary and acquired mutations</p>	<p>3.11 Prevention and treatment of infectious diseases 3.12 Current issues in prevention and treatment of infectious diseases 3.13 Health and safety with microorganisms 3.14 Microscopy techniques</p>	<p>4.12 Drug and medicine development 4.13 Innovative treatments 4.14 Ethical, legal and moral issues Independent study: PSAB Planning and drafting</p>

		Assessment PIT	3.15 Microscopy staining techniques 3.16 Colony characterisation and using magnification formula Assessment PIT Independent study: PSAB Planning	
Block 4 lessons	1.18 Blood and blood vessels 1.19 The respiratory system 1.20 The renal system 1.21 The digestive system 1.22 Assimilation and metabolism Assessment PIT	2.18 Genetic conditions – genetic diagrams 2.19 Inheritance and effect of genetic and chromosomal conditions 2.20 Genetic screening 2.21 Genetic screening-ethical considerations 2.22 Development of cancer and diagnosis methods 2.23 Cancer screening	3.17 Culturing microorganisms - Part 1 3.18 Culturing microorganisms - Part 2 3.19 Total population counts 3.20 Viable count and advanced quantitative techniques 3.21 Investigating inhibition of microbial growth 3.22 Interpretation, analysis and evaluation of data	Internal assessment (11+ hours)
Block 5 lessons	Exam revision	2.24 Cancer treatments 2.25 Quantitative and qualitative evidence 2.26 Processing and presenting evidence 2.27 Factors affecting validity and reliability of data 2.28 Bias, misuse, error and secondary data 2.29 Conducting data analysis	Internal assessment (19+ hours)	