

Diploma Programme Course Outline

Name of the DP subject	Biology (HL/SL)	
Level	SL and HL students are taught the option in the same class <div style="text-align: right;"> Higher <input type="checkbox"/> Standard <input type="checkbox"/> </div>	
YEAR 2		
UNIT	TOPIC/CONCEPT	ASSESSMENT COMPONENTS
9. Plant Biology <div style="text-align: center;">(HL ONLY)</div>	<p>9.1 Transport in the xylem of plants</p> <ul style="list-style-type: none"> ➤ Transpiration ➤ Evaporation ➤ Transpiration Stream ➤ Root Uptake ➤ Xylem Structure ➤ Water Conservation ➤ Plant Experiments <p>9.2 Transport in the phloem of plants</p>	<p>External</p> <p>Paper 1 assessment Paper 2 assessment</p> <p>assessment objectives 1, 2 and 3.</p> <p>IA</p> <p>Formative</p> <p>Tests Quizzes Presentations Research Think Pair Square IA</p>

	<ul style="list-style-type: none"> ➤ Active Translocation ➤ Phloem Structure ➤ Phloem Loading ➤ Mass Flow ➤ Translocation Rate <p>9.3 Growth in plants</p> <ul style="list-style-type: none"> ➤ Meristems ➤ Apical Growth ➤ Auxin ➤ Tropisms ➤ Micropropagation <p>9.4 Reproduction in plants</p> <ul style="list-style-type: none"> ➤ Plant Reproduction ➤ Flowering ➤ Flower Structure ➤ Photoperiodism ➤ Seed Structure ➤ Germination 	<p>Paper 1 assessment Paper 2 assessment</p> <p>assessment objectives 1, 2 and 3.</p> <p>IA Formative Tests Quizzes Presentations Research Think Pair Square IA</p>
<p>10. Genetics and Evolution (HL ONLY)</p>	<p>10.1 Meiosis</p> <ul style="list-style-type: none"> ➤ Interphase ➤ Stages of Meiosis ➤ Random Assortment ➤ Chiasmata ➤ Crossing Over <p>10.2 Inheritance</p>	<p>Paper 1 assessment Paper 2 assessment assessment objectives 1, 2 and 3. IA</p> <p>Formative Tests Quizzes</p>

	<ul style="list-style-type: none"> ➤ Dihybrid Crosses ➤ Linked Genes ➤ Recombinants ➤ Chi Squared Test ➤ Polygenic Traits <p>10.3 Gene pools and speciation</p> <ul style="list-style-type: none"> ➤ Evolution ➤ Allele Distribution ➤ Types of Selection ➤ Isolation Barriers ➤ Speciation ➤ Pace of Speciation 	<p>Presentations Research Think Pair Square IA</p> <p>Paper 1 assessment Paper 2 assessment</p> <p>assessment objectives 1, 2 and 3.</p> <p>IA Formative Tests Quizzes Presentations Research Think Pair Square IA</p>
<p>11. Animal Physiology (HL ONLY)</p>	<p>11. Antibody production and vaccination</p>	<p>Paper 2 assessment</p> <p>assessment objectives 1, 2 and 3.</p> <p>IA</p> <p>Formative Tests Quizzes</p>

	<ul style="list-style-type: none"> ➤ Self versus Non-Self ➤ Pathogenesis ➤ Clonal Selection ➤ Antibodies ➤ Immunity ➤ Allergens ➤ Vaccination ➤ Monoclonal Antibodies <p>11. 2 Movement</p> <ul style="list-style-type: none"> ➤ Skeletal Framework ➤ Joints ➤ Muscles ➤ Muscle Fibres ➤ Sarcomeres ➤ Muscle Contraction ➤ State of Contraction <p>11.3 The kidney and osmoregulation</p> <ul style="list-style-type: none"> ➤ Excretory Systems ➤ Malpighian Tubules ➤ Kidneys ➤ Nephrons ➤ Ultrafiltration ➤ Selective Reabsorption ➤ Osmoregulation ➤ Water Balance 	<p>Practice Papers Presentations Research Think Pair Square IA</p> <p>Paper 1 assessment</p> <p>Paper 2 assessment</p> <p>assessment objectives 1, 2 and 3.</p> <p>IA</p> <p>Formative Tests Quizzes Practice Papers Presentations Research Think Pair Square IA</p>
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	<ul style="list-style-type: none"> ➤ Kidney Disease <p>11.4 Sexual reproduction</p> <ul style="list-style-type: none"> ➤ Gametogenesis ➤ Reproductive Tissue ➤ Egg and Sperm ➤ Animal Fertilization ➤ Human Fertilization ➤ Embryo Development ➤ Human Chorionic Gonadotropin ➤ Placenta ➤ Birth Process ➤ Gestation Periods 	
UNIT	TOPIC/CONCEPT	ASSESSMENT COMPONENTS
Option D: Human Physiology (HL and SL)	D.1 Human nutrition	Paper 2 assessment Paper 3 assessment assessment objectives 1, 2 and 3. IA

	<ul style="list-style-type: none"> ➤ Essential Nutrients ➤ Energy Sources ➤ Amino Acids ➤ Amino Acids ➤ Lipids ➤ Vitamins ➤ Minerals ➤ Appetite and Diet ➤ Dietary Intake <p>D.2 Digestion</p> <ul style="list-style-type: none"> ➤ Exocrine Glands ➤ Gastric Secretions ➤ Stomach Acid ➤ Intestinal Villi ➤ Dietary Fibre ➤ Digestive Infections <p>D.3 Functions of the liver</p> <ul style="list-style-type: none"> ➤ Liver Blood Flow ➤ Liver Structure ➤ Nutrient Supply ➤ Detoxification ➤ Plasma Proteins ➤ Erythrocyte Recycling ➤ Jaundice <p>D.4 The heart</p>	<p>Paper 2 assessment Paper 3 assessment</p> <p>assessment objectives 1, 2 and 3.</p> <p>IA</p>
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	<ul style="list-style-type: none"> ➤ Cardiac Muscle ➤ Cardiac Conduction ➤ Heart Sounds ➤ Electrocardiography ➤ Cardiac Output ➤ Heart Disorders ➤ Heart Treatments 	
<p>Additional HL Human Physiology</p>	<p>D.5 Hormones and metabolism</p> <ul style="list-style-type: none"> ➤ Endocrine Glands ➤ Types of Hormones ➤ Pituitary Gland ➤ Growth Hormone ➤ Lactation <p>D.5 Transport of respiratory gases</p>	<p>Paper 2 assessment Paper 3 assessment</p> <p>assessment objectives 1, 2 and 3.</p> <p>IA</p> <p>Paper 2 assessment Paper 3 assessment</p> <p>assessment objectives 1, 2 and 3.</p> <p>IA</p>

	<ul style="list-style-type: none">➤ Lung Tissue➤ Oxygen Dissociation Curve➤ Carbon Dioxide Transport➤ Blood pH➤ Bohr Shift➤ Respiratory Control➤ High Altitude Training➤ Emphysema	
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All Diploma Programme courses are designed as two-year learning experiences.