Unit 7, Dartmouth Buildings, Fort Fareham Industrial Estate,
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Edexcel GCSE Biology – Course outline

Experiment = EX Lecture = L Assessment = A

Code	Name	Activity
Section 1 - Key Concepts in Biology		
Module 1 - Cell Structure		
1.1.1	Eukaryotes and Prokaryotes	L
1.1.2	Cell Specialisation	L
1.1a	Cells	A
1.2	Microscopy	Ex
1.2a	Microscopy	A
1.2b	Microscopy	A
Module 2 - Enzyme Action		
2.1	Enzymes	L
2.1a	Enzymes	A
2.2.1	The Effect of pH on Enzymes (Theory and Method)	Ex
2.2.2	The Effect of pH on Enzymes (Doing the Experiment)	Ex
2.2.3	The Effect of pH on Enzymes (Analysing the Results)	Ex
2.2a	The Effect of pH on Enzymes	A
2.2b	The Effect of pH on Enzymes	A
2.3	Food Tests	Ex
2.3a	Food Tests	A
2.3b	Food tests	A
2.4	Calorimetry	L
2.4a	Calorimetry	A
Module 3 - Transport in Cells		
3.1.1	Diffusion	L
3.1.2	Osmosis	L
3.1.3	Active transport	L
3.1a	Transport in Cells	A
3.2.1	Investigating Osmosis (Doing the Experiment)	Ex
3.2.2	Investigating Osmosis (Analysing the Results)	Ex
3.2a	Investigating Osmosis	A
3.2b	Investigating Osmosis	A

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Section 2 - Cells and Control

Module 1 - Cell Division and Growth

1.1	Mitosis	L
1.1a	Mitosis	A
1.2	Growth in Organisms	L
1.2a	Growth in Organisms	A
1.3	Stems Cells	L
1.3a	Stems Cells	A

Module 2 - The Nervous System and the Eye

2.1	The Structure of the Brain	L
2.1a	The Structure of the Brain	A
2.2	Accessing and Treating the Brain	L
2.2a	Accessing and Treating the Brain	A
2.3.1	The Nervous System	L
2.3.2	Reflex Arcs	L
2.3a	The Nervous System	A
2.4.1	Structure of the Eye	L
2.4.2	Eye Defects	L
2.4a	The Eye	A

Section 3 - Genetics

Module 1 - Reproduction

1.1.1	Sexual and Asexual Reproduction	L
1.1.2	Evaluating Sexual and Asexual Reproduction	L
1.1a	Sexual and Asexual Reproduction	A
1.2	Meiosis	L
1.2a	Meiosis	A

Module 2 - DNA and Protein Synthesis

2.1	DNA and the Genome	L
2.1a	DNA and the Genome	A
2.2	Extracting DNA	L
2.2a	Extracting DNA	A
2.3.1	Protein Synthesis	L
2.3.2	Genetic Variants	L
2.3a	Protein Synthesis and Genetic Variants	A

Module 3 - Genes

3.1	Mendel's Work	L
3.1a	Mendel's Work	A
3.2.1	Alleles	L

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3.2.2	Genetic Diagrams	L
3.2.3	Sex Determination	L
3.2a	Genetics	A
3.3	ABO Blood Groups	L
3.3a	ABO Blood Groups	A
3.4	Sex-linked Genetic Disorders	L
3.4a	Sex-linked Genetic Disorders	A
3.5	Variation	L
3.5a	Variation	A
3.6	The Human Genome Project	L
3.6a	The Human Genome Project	A

Section 4 – Natural Selection and Genetic Modification

Module 1 - Natural Selection

1.1	Darwin and Wallace	L
1.1a	Darwin and Wallace	A
1.2	Evolution	L
1.2a	Evolution	A
1.3.1	Resistant Bacteria	L
1.3.2	Human Evolution	L
1.3a	Evidence for Evolution	A
1.4	The Pentadactyl Limb	L
1.4a	The Pentadactyl Limb	A
1.5	Classification	L
1.5a	Classification	A

Module 2 - Genetic Modification

2.1.1	Selective Breeding	L
2.1.2	Genetic Engineering	L
2.1a	Selective Breeding and Genetic Engineering	A
2.2	The Process of Genetic Engineering	L
2.2a	The Process of Genetic Engineering	A
2.3	Tissue Culture	L
2.3a	Tissue Culture	A
2.4	GM and Agriculture	L
2.4a	GM and Agriculture	A

Section 5 - Health, Disease and Medicines

Module 1 - Health and Diseases

1.1	Communicable and Non-Communicable Diseases	L
1.1a	Communicable and Non-Communicable Diseases	A
1.2	Pathogens and Common Infections	L
1.2a	Pathogens and Common Infections	A

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1.3	The Lifecycle of a Virus	L
1.3a	The Lifecycle of a Virus	A

Module 2 - Plant Defences

2.1	Plant Defences	L
2.1a	Plant Defences	A
2.2	Detecting Plant Diseases	L
2.2a	Detecting Plant Diseases	A

Module 3 - Human Defences

3.1	Human Defence Systems	L
3.1a	Human Defence Systems	A
3.2	Immunisation	L
3.2a	Immunisation	A

Module 4 - Treating Disease

4.1	Antibiotics	L
4.1a	Antibiotics	A
4.2	Investigating Antiseptics and Antibiotics	Ex
4.2a	Investigating Antiseptics and Antibiotics	A
4.2b	Investigating Antiseptics and Antibiotics	A
4.2C	Investigating Antiseptics and Antibiotics	A
4.3	The Development of New Drugs	L
4.3a	The Development of New Drugs	A
4.3b	The Development of New Drugs	A
4.4	Producing Monoclonal Antibodies	L
4.4a	Producing Monoclonal Antibodies	A
4.5	Uses of Monoclonal Antibodies	L
4.5a	Uses of Monoclonal Antibodies	A

Module 5 - Non-Communicable Disease

5.1	Lifestyle and Non-Communicable Disease	L
5.1a	Lifestyle and Non-Communicable Disease	A
5.1b	Lifestyle and Non-Communicable Disease	A
5.2	Cardiovascular Disease	L
5.2a	Cardiovascular Disease	A

Section 6 - Plant Structures and Functions

Module 1 - Photosynthesis

1.1.1	The Photosynthesis Reaction	L
1.1.2	The Rate of Photosynthesis	L
1.1a	Photosynthesis	A
1.2.1	Graphs of Multiple Limiting Factors	L

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1.2.2	Inverse Square Law	L
1.2a	Advanced Rate of Photosynthesis	A
1.3.1	Photosynthesis and Light Intensity (Doing the Experiment)	Ex
1.3.2	Photosynthesis and Light Intensity (Analysing the Results)	Ex
1.3a	Photosynthesis and Light Intensity	A
1.3b	Photosynthesis and Light Intensity	A

Module 2 - Plant Tissues and Systems

2.1	Plant Tissues	L
2.1a	Plant Tissues	A
2.2	Transpiration and Translocation	L
2.2a	Transpiration and Translocation	A
2.3	Rate of Transpiration	L
2.3a	Rate of Transpiration	A
2.4	Plants in Extreme Environments	L
2.4a	Plants in Extreme Environments	A

Module 3 - Plant Hormones

3.1	Control and Coordination in Plants	L
3.1a	Control and Coordination in Plants	A
3.2	Uses of Plant Hormones	L
3.2a	Uses of Plant Hormones	A

Section 7 - Animal Coordination

Module 1 - Hormones

1.1	Human Endocrine System	L
1.1a	Human Endocrine System	A
1.2	Adrenaline and Thyroxine	L
1.2a	Adrenaline and Thyroxine	A
1.3	The Menstrual Cycle	L
1.3a	The Menstrual Cycle	A
1.4	Hormone Interactions	L
1.4a	Hormone Interactions	A
1.5	Contraception	L
1.5a	Contraception	A
1.6	Infertility Treatment	L
1.6a	Infertility Treatment	A

Module 2 - Homeostasis

2.1	Homeostasis	L
2.1a	Homeostasis	A
2.2	Thermoregulation	L
2.2a	Thermoregulation	A

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2.3	Vasoconstriction and Vasodilation	L
2.3a	Vasoconstriction and Vasodilation	A
2.4	Osmoregulation	L
2.4a	Osmoregulation	A
2.5.1	Blood Glucose Concentration	L
2.5.2	Diabetes	L
2.5.3	Obesity and Type 2 Diabetes	L
2.5a	Blood Glucose and Diabetes	A
2.6	Glucagon	L
2.6a	Glucagon	A
2.7.1	Structure of the Urinary System	L
2.7.2	Treating Kidney Failure	L
2.7a	The Urinary System	A
2.8	ADH	L
2.8a	ADH	A

Section 8 - Exchange in Animals

Module 1 - Exchange and Transport in Animals

1.1	Efficient Transport and Exchange	L
1.1a	Efficient Transport and Exchange	A
1.2	Factors Affecting Diffusion	L
1.2a	Factors Affecting Diffusion	A
1.3	The Heart and Blood Vessels	L
1.3a	The Heart and Blood Vessels	A
1.4	Blood	L
1.4a	Blood	A
1.5	Aerobic and Anaerobic Respiration	L
1.5a	Aerobic and Anaerobic Respiration	A
1.6.1	Investigating the Rate of Respiration (Doing the Experiment)	Ex
1.6.2	Investigating the Rate of Respiration (Analysing the Results)	Ex
1.6a	Investigating the Rate of Respiration in Living Organisms	A
1.6b	Investigating the Rate of Respiration in Living Organisms	A

Section 9 – Ecosystems and Material Cycles

Module 1 - Organisation in Ecosystems

1.1.1	Communities	L
1.1.2	Abiotic Factors	L
1.1.3	Biotic Factors	L
1.1a	Ecosystems	A
1.2.1	Measuring a Population	EX
1.2.2	The Effect of Trees on a Daisy Population	EX
1.2a	Measuring the Sizes of Populations	A
1.2b	Measuring the Sizes of Populations	A

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1.3	Feeding Relationships	L
1.3a	Feeding Relationships	A
1.4.1	Trophic levels	L
1.4.2	Pyramids of Biomass	L
1.4.3	Transfer of Biomass	L
1.4a	Biomass and Energy	A

Module 2 - Cycles and Biodiversity

2.1.1	Carbon Cycle	L
2.1.2	Water Cycle	L
2.1.3	Nitrogen Cycle	L
2.1a	Carbon, Water and Nitrogen Cycles	A
2.2	Indicator Species	L
2.2a	Indicator Species	A
2.3	Decomposition	L
2.3a	Decomposition	A
2.4.1	Biodiversity	L
2.4.2	Human Impacts on Biodiversity	L
2.4a	Biodiversity	A
2.5	Food Security	L
2.5a	Food Security	A