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IB Biology 11/12—NorKam Senior Secondary

IB Biology consists of two years of study on a variety of topics with a concentration on human and plant biology.

IB has many requirements for successful completion of IB biology. They include:

- Group 4 Project (in conjunction with others science courses)
- Biology Internal Assessment
- 60 hours of Laboratory work
- Passing the external IB exam in May 2021.

Course Evaluation:

Formal **Exams** - 45 % (November and March)
Tests – 35%
Labs, Assignments – 20%

These marks are used to determine your predicted grade

IB Evaluation

External Assessment 70% of final mark

Consists of 3 different exams which are written in May of senior year.
Paper 1 30%
Paper 2 40%

Internal Assessments (30% of final mark)

There is one Internal Assessment which will be assigned and be graded according to the IBO mandated

rubric for internal assessment. You will be given the due dates for your Internal Assessment well in advance; these dates are firm.

Biology HL students must complete 60 hours of practical work; this does NOT include write-up time! All write-ups **must be kept** in your binder; some of which can be/maybe submitted to IBO moderators for assessment.

A variety of practical labs will be completed throughout the course; some will be used for learning the subject matter and laboratory skills while others will be assessed by IBO according to their assessment criteria. It is THE STUDENT's responsibility to meet the required lab hours and to earn enough marks to satisfy the IBO's criteria. You will be required to propose, plan, and carry out some lab work on your own time. Write-ups for lab work will be due one week after the lab date and are expected to be completely finished regardless of the criterion being assessed. Lab details and hours logged will be recorded on your 4PSOW form. Lab write-ups **must be** individually done.

HL Assessment Specifications

Internal Assessment (IA) (Graded by your instructor, and then some labs randomly graded externally). These are labs that are completed by students with minimal guidance……...20% of IB Biology Grade
(24 points possible)

You will complete 1 IA lab for this class. Dates will be posted well in advance when this IA will occur…it's a big deal and trust me, you'll know when we're completing a lab to be graded "officially" as an IA.

Each, or part of each, lab will be graded in five areas. This is how many points you can earn per criterion:

Personal Engagement …….. 2 points
Exploration…….. 6 points possible
Analysis……. 6 points possible
Evaluation…….. 6 points possible
Communication……. 4 points possible

External Assessment

This is completed by examination in May 2021. You will write two papers, all of which will be marked

by an examiner who has never met you and knows nothing about you. Therefore, it is essential that your answers are clear and to the point. Pay close attention to the 'Command terms' in the question, and the number of points awarded for it. These will let you know exactly what the examiner is looking for. We will practice examination questions and techniques throughout the course.

External assessment counts towards 80% of your final mark! HL assessment specifications (Examinations- May)

Component	**Overall Weighting (%)**	**Marks**	**Duration (hrs)**	**Format & Syllabus Coverage**
Paper 1	30	40	1	40 multiple-choice questions No calculators
Paper 2	40	72	2 ¼	Section A: one data-based question and several short-answer questions on the core and the AHL (all compulsory) Section B: two extended-response questions on the core and the AHL (from a choice of four) Calculators

Optional Unit to be covered is Option C Ecology

Topic #1: Cell Biology

Introduction to cells
Ultrastructure of cells
Membrane structure
Membrane transport
The origin of cells
Cell division

Topic #2: Molecular Biology
Molecules to metabolism
Water
Carbohydrates and lipids
Proteins
Enzymes

Structure of DNA and RNA
DNA replication, transcription and Translation
Cell respiration
Photosynthesis

Topic #3: Genetics
Genes
Chromosomes
Meiosis
Inheritance
Genetic modification and biotechnology

Topic #4: Ecology
Species, communities and ecosystems
Energy flow
Carbon cycling
Climate change

Topic #5: Evolution and biodiversity
Evidence for evolution
Natural selection
Classification and biodiversity
Cladistics

Topic #6: Human Physiology
Digestion and absorption
The blood stream
Defense against infectious diseases
Gas exchange
Neurons and synapses
Hormones, homeostasis and reproduction

Topic #7: Nucleic Acids
DNA structure and replication
Transcription and gene expression
Translation

Topic #8: Metabolism, cell respiration and photosynthesis
Metabolism
Cell respiration

Photosynthesis

Topic#9: Plant biology
Transport in the xylem of plants
Transport in the phloem of plants
Growth in plants
Reproduction in plants

Topic#10: Genetics and evolution
Meiosis
Inheritance
Gene pool and speciation

Topic #11: Animal Physiology
Antibody production and vaccination
Movement
The kidney and osmoregulation
Sexual reproduction