



## Higher Level and Standard Level Biology

This course helps students to better understand the world that they live in and the world within them. It allows an in-depth study of a wide range of biological concepts as they apply them to the diversity, interactions, systems and interacting communities.

The IBDP develops an understanding of the biological systems with a particular emphasis on Human Biology. This course is suitable for students who have a keen interest in the living world. The student should also possess good reasoning ability grounded on scientific principles. Students selecting Higher Level (HL) Biology should have done well in the 'O'-Level Biology or at the Pre-IB course having acquired a reasonably good grade.

### Core Curriculum (HL and SL)

#### (a) *Cell biology*

This topic explores the many intriguing aspects of the building blocks of life.

#### (b) *Molecular biology*

This topic explores the nature of organic compounds and the world of enzymes with reference to DNA, cell respiration and photosynthesis.

#### (c) *Genetics*

This topic places special emphasis on heredity, genetic engineering and aspects of biotechnology.

#### (d) *Ecology and evolution*

This topic investigates the interdependence of organisms within the complexities of the systems and theories of evolutionary change.

#### (e) *Human Physiology*

This topic focuses on the life-giving processes in the human system.

### Additional Higher Level Topics (HL only)

Students offering HL cover more depth and detail within each of these areas of study in an extended syllabus with a particular emphasis on biochemistry, molecular biology, genetics, physiology and plant science.

### Options (HL and SL)

Students study one topic.

**Option D** : Human physiology

### Coursework (HL and SL)

The course comprises a substantial amount of laboratory based work requiring regular experimental reports throughout the two years of study.

In addition, students will work on a Group 4 interdisciplinary Science project which may not be syllabus related and is not assessed.

### Assessment (HL and SL)

#### Internal assessment (20%)

This assessment is based on one self-directed scientific investigation that the student will undertake and the report is about 6 to 12 pages.

#### Written Examinations (80%)

Three written papers comprising of multiple choice, data based, conceptual structured and free response questions.

	HL	SL
Paper 1	20%	20%
Paper 2	36%	40%
Paper 3	24%	20%

### University Courses and Careers

Both HL & SL Biology lays the foundation for courses in 'pure sciences' and applied sciences, Medicine, Pharmacy, Biochemistry, Microbiology, Life Sciences, Veterinary Science, Forestry, Physiotherapy, etc. The requirement of HL & SL Biology as a pre-requisite for enrolling into university courses varies between institutions. Students are advised to check the respective university websites for details.