Biology

What is Biology?

Biology is the science of Life. In biology, students study the structure, function, growth, origin, evolution and distribution of living organisms. Biology a fascinating domain of science, traversing vast tracts of study of the natural world and may be organised into at least nine umbrella fields, ranging from biochemistry, plant biology, physiology, genetics, cell and molecular biology to evolutionary biology, ecology and animal biology. Understanding structure-function relationships, from molecules to ecosystems, lies at the heart of biology. All fields overlap in this sphere of knowledge and therefore, biology needs to be studied in a unified, integrated and structured manner. There is a very strong interface between biology and Medicine, with some scholars assigning Medicine as an applied field of biology.

What skills would I develop, as a learner?

In the pursuit of gaining competence in Biology, the learner develops impeccable skills of designing, conducting and and interpreting scientific research, conducting statistical analyses, applying scientific methodology to problem-solving, communicate findings using models, charts, graphs, multimedia and, eventually, communicate biological research findings using scientific writing. In addition, the learner develops a critical awareness of effective collaboration and communication, learning to appreciate scientific study and creativity within a global context, through stimulating and challenging opportunities.

Are there any differences between SL & HL?

The Standard Level (SL) course ensures that students are exposed to the discipline that they might otherwise opt out of, and the Higher Level (HL) courses allow students with a deep interest in Biology, to spend more time with the discipline, by exploring options in addition to the SL core curriculum. The biology SL course is recommended a minimum of 150 hours and biology HL course is recommended a minimum of 240 hours of instructional time.

What are the key features of the DP Biology curriculum?

The DP Biology curriculum covers the breadth of all the nine umbrella fields, ranging from biochemistry, plant biology, physiology, genetics, cell and molecular biology to evolutionary biology, ecology and animal biology. Biology students at SL and HL undertake a common core syllabus but students at HL are required to study the options and some topics as well as some additional topics as the curriculum delves in depth here. An exemplar topic under HL would be structure and function of nucleic acids (DNA, RNA) The distinction between SL and HL is one of breadth and depth.

How does assessment look like, in Biology?

In DP biology, students are assessed both externally and internally. Biology students at SL and HL undertake a common internal assessment (IA) scheme. In this scheme, practical approaches to the course delivery are emphasised through interdisciplinary projects, along with short-term and long-term experiments and investigations. Internal assessment is assessed through a single individual investigation. Student work is internally assessed by the teacher and externally moderated by the IB. The external assessment of biology consists of three written papers which include multiple-choice, short-answer and extended-response questions. The weighting is 80 percent for the external assessment and 20 percent for the Internal Assessment.

How will the DP Biology course help me later in my career and life?

The DP Biology course prepares students both professionally and academically, creating the ground by fostering attitudes and qualities of the mind to allow students to become lifelong learners. The course eliminates the “academic versus practical” divide plaguing most other courses. Biology is an all-encompassing subject and students who go on to pursue a college course in Biology have career options ranging from research, healthcare, forensic sciences, environmental conservation to biotechnology, education and government and policy.

Source: www.ibo.org