**pre-DP Biology**

**Course summary and competence goals**

The main perspective of this course is the central role of evolution in the understanding of Biology. The course introduces learners to the characteristics of all living organisms. During the course, students become familiar with the process of acquiring and describing information in Biology as well as the role of Biology in the field of natural sciences. This course requires interactive skills along with multidisciplinary and creative skills. Pair and group work are important methods to reaching the learning goals of this course.

**General course goals**

Upon course completion, the student will be able to:

-explain the characteristics and basic conditions of life

-know the basic structures and function of cells at a level that allows for the understanding of evolution

-explain the mechanisms related to genetic variation, natural selection and species and can explain their significance in evolution

-classify organisms according to current classification systems

-understand and explain how biological information is produced

-understand the main topics of Biology in the IBDP

-understand the course requirements of Biology in the IBDP

**Course content**

**Biology as a science**

-The characteristics of life and organizational levels

-Research methods in Biology

-Observations, research questions and hypothesis formation in Biology

**Evolution**

-Birth of cells and cell development

-Sexual and asexual reproduction

-Variation and heredity

-Natural selection

-Speciation

-Plant and animal evolution and key adaptations

-Evolutionary research

**Ecology**

-Ecosystems

-Energy and nutrient transfer

-Energy transfer

-Carbon cycle

-Climate change

**Classification**

-Principles of classification

-Tree of life and the most important classifications

**Cells**

-Cell structure and function

-The cell membrane

-Cell transport

-Origin of cells

-Cell division

**Assessment**

Focusing on the main goals and contents, the course uses formative and summative assessment.

The purpose of the feedback during the study is to guide the student to become aware of their working methods and interaction skills, which are very important in future IB studies.

**Course materials**

**Course book:** Oxford IB Course Preparation: Biology for IB Diploma Programme Course Preparation

**Grading scale:** 4-10

**Pages from the coursebook:**

**Chapter 1 Cells: 1-22**

**Chapter 6 Ecology, Evolution and Classification: 126-153**