

BIOLOGY

COURSE DESCRIPTION

WHAT IS THE COURSE ABOUT?

We develop the scientific approach to life and learn how to apply it in everyday situations. Special attention is given to modern biology which is connected to everyday life: cell biology, evolution, basic chemistry of life. We learn about nutrition and food. We learn about human sexuality and contraception. We investigate learning, memory, sleeping. We appreciate our environment and learn about it.

The course mirrors the IB philosophy: the use of a wide range of resources, international mindedness, and the IB learner profile.

'The course helps students to develop their natural curiosity, to explore concepts, ideas and issues that have local and global significance. They exercise initiative in applying thinking skills critically and creatively to recognize and approach complex problems, and make reasoned, ethical decisions.' (from The IB Learner Profile)

The great emphasis will be on the conceptual, not factual learning. Concepts are presented in ways that will promote enduring understanding.

The school offers two lessons on biology per week.

TOPICS:

MYP4

THE SCIENTIFIC METHOD

What is the scientific method and how to apply it in everyday life?

- interpretation of graphs and scientific data
- concepts of scientific method
- strategies to explore new ideas

CELL BIOLOGY

What is the connection between the basic unit of life and its environment?

- cell parts and their function
- skills: observation
- cell membrane
- cell and environment
- what does it mean to be alive

EVOLUTION

What causes the diversity of life?

- what does it mean good and bad; everything depends on circumstances
- theories about life
- evolution and our society

THE CHEMISTRY OF LIFE

What is the relationship between biologically important compounds and our health and well being?

- biologically important compounds: carbohydrates, proteins, fats
- the relationship between the structure and feature
- what does it mean 'healthy eating'
- social, ethical and health consequences connected with food we eat

MYP5

HUMAN SEXUALITY

How does basic knowledge about human sexuality help in everyday communication between the opposite genders?

- anatomy of human sexual organs
- menstrual cycle
- contraception
- responsible sexual behaviour
- position of the genders in the modern society

THE NERVOUS SYSTEM

The nervous system: how does it function and how drugs affect the brain?

- basic organisation of nervous system
- techniques for effective learning
- techniques for relaxation and concentration
- sleeping patterns
- drugs and hallucinations

WATER

How is life connected to water?

- the structure of water
- hydrogen bonds
- properties of water which are important for life
- connection between physical properties of water and life
- connection between biology, chemistry, physics

ECOLOGY

Why is an impossible to separate living being from their environment?

- Ecology: basic terms
- Population dynamics

- Food chains
- Energy relationships
- Pollution
- Greenhouse effect
- Eco – friendly behaviour

ASSESSMENT:

- written tests (**A**)
- scientific investigations / lab reports (**B, C**)
- essays (**A, D**)
- some of the homework
- oral exams through particular individual questions during the lessons (**A**)
- observations (**C**)
- discussions (**A, D**)

Students are assessed according to the prescribed (MYP5) and interim (MYP4) descriptors for grading. The students are given task specific descriptors together with each investigation or essay.

At the end of the school year points are given in each criteria taking into account achievements in all individual tasks (formative and more summative assessment).

Final grades are derived according to the interim grade boundaries (MYP 4) or grade boundaries provided by the IB (MYP 5):

Grade	MYP 4	MYP 5
	Points	Points
1	0 – 5	0 – 5
2	6 – 9	6 – 9
3	10 – 14	10 – 14
4	15 – 18	15 – 18
5	19 – 23	19 – 23
6	24 – 27	24 – 27
7	28 – 32	28 – 32

