MYP 4 Course overview 2024/2025 ***BIOLOGY***

| Unit title | Key concept | Related concepts | Global context | Statement of inquiry | Objectives | Assessment tasks | ATL skills | Content |
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| Unit 1<br>***The scientific method***<br><br>September, October 2024 | Perspective | Evidence<br>Patterns | Scientific and technical innovation | Scientific and technological advances enable societies to understand (or at least, to try to understand) the universe | A<br>B<br>C<br>D | Discussion about the scientific method(D)<br>Practical works: analysis of results(C)<br>End-of-unit or chapter tests(A)<br>Examples of design (B) | Communication,<br>Collaboration,<br>Critical thinking,<br>Creative thinking | Elements of the scientific method<br>Experimental approach<br>How to design an experiment<br>Variables in experiment<br>How to understand graphs and tables<br>Data analysis |
| Unit 2<br>***Evolution***<br><br>November 2024 | Change | Environment<br>Consequences<br>Balance | Fairness and development | Evolution is a consequence of the unbalanced opportunities provided by natural selection | A<br>C<br>D | End-of-unit or chapter tests (A)<br>Analysis of similarities between various bones: collection and interpretation of data (C)<br>The social impact of evolution (discussion and written piece of work)(D) | Organization<br>Collaboration<br>Communication<br>Information literacy<br>Critical thinking | Definition of evolution<br>Evidence for evolution (fossil record, homologous structures, breeding)<br>Overproduction, variation, natural selection and inheritance<br>Evolution and sexual reproduction<br>Evolution in response to environmental change |
| Unit 3<br><br>**The chemistry of life**<br><br>December 2024<br>January,<br>February,<br>March 2025 | Relationships | Function | Identities and relationships | There is a strong relationship between the structure and function of biologically important compounds | A<br>B<br>C | Practical work on biologically important compounds and enzymes (B, C)<br>End-of-unit or chapter test | Organization<br>Collaboration<br>Communication<br>Information literacy<br>Reflection<br>Critical thinking | Biologically important compounds<br>Proteins and enzymes<br>Carbohydrates<br>Lipids<br>Nutrition (proteins, carbohydrates and lipids in our diet)<br>Conscious eating and healthy diet |

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| Unit 4<br><br>**<u>Cells</u>**<br><br>April, May, June 2025 | Connections | Interaction<br>Form | Identities and relationships | Life is the product of numerous interactions | A<br>B | How to use the microscope (B)<br>End-of-unit or chapter tests(A) | Communication (group work)<br>Collaboration (group work)<br>Reflection | Cells, organelles<br>Cell membrane<br>Cell to cell communication<br>Transport through the membrane<br>Diffusion<br>Osmosis |

MYP 5 Course overview 2024/2025 ***BIOLOGY***

| Unit title | Key concept | Related concepts | Global context | Statement inquiry | Objectives | Assessment tasks | ATL skills | Content |
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| Unit 1<br>***The human reproductive system***<br><br>September, October 2024 | Development | Consequences | Personal and cultural expression | Sexual development and its consequences for personal and cultural expression | A<br><br>D | Discussion about methods of contraception and social issue (D)<br>End-of-unit or chapter tests(A) | Organization<br>Collaboration-working in groups<br>Communication<br>Information literacy<br>Reflection: self-evaluation<br>Thinking- Transfer | The basic anatomy of human reproductive system<br>Sexual development<br>The menstrual cycle<br>Pregnancy and birth<br>Contraception<br>Personal aspects of sex<br>Sexually transmitted diseases<br>Responsible sexual behaviour |
| Unit 2<br>**The nervous system and drugs**<br><br>November, December 2024 | Systems | Balance<br>Function | Orientation in time and space | Orientation in time and space depends on healthy and balanced nervous system | A<br>B<br>C<br>D | End-of-unit or chapter tests(A)<br>Design scientific investigation about learning in humans (B)<br>Learning in humans, data analysis (C)<br>Application of science: pills, drugs or help, written piece of work (D) | Organization-time management<br>Collaboration<br>Communication<br>Information literacy<br>Media literacy<br>Reflection: self-evaluation<br>Thinking-<br>Transfer | General plan of the nervous system<br>Nerve cells<br>Nerve impulse<br>The brain and behaviour<br>The brain and learning<br>The brain and sleep<br>Drugs and mental illness |
| Unit 3<br>***Water***<br><br>January 2025 | Change | Transformation | Identities and relationship | How and why are transformations of liquid water, ice and vapour crucial for life and the relationship between life and environment? | A<br>B<br>C | Practical work on properties of water important for living beings(B,C)<br>End-of-unit or chapter tests(A) | Organization-time management<br>Collaboration<br>Communication<br>Reflection: self-evaluation<br>Creative thinking (design of experiment) | Water: the structure<br>Hydrogen bonds<br>Properties of water<br>The relationship between the properties of water and life as we know it |

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| Unit 4<br>**<u>Basic ecology</u>**<br><br>February, March, April, May, June 2025 | Systems | Environment<br>Interaction<br>Energy | Globalization and sustainability | Organisms interact with the natural environment by transferring matter and energy | A<br><br>D | Discussion about fossil fuels and our future (D)<br>End-of-unit or chapter tests(A) | Organization-time management<br>Collaboration<br>Communication<br>Information literacy<br>Media literacy<br>Reflection: self-evaluation<br>Thinking-<br>Transfer | Communities and ecosystems<br>Food chains<br>Pyramids of energy<br>The role of bacteria<br>The greenhouse effect and the precautionary principle<br>Consequences of a global temperature rise on ecosystems<br>Populations<br>Population growth curve<br>Binomial system of nomenclature<br>Natural classification |

**DIFFERENTIATION**

For students with:

**Dyslexia and dysgraphia**

- Bigger font, bigger space between rows

- Dividing text in tests, practice sheets and instruction papers, Internet resources

- More time for reading, checking if the text/questions are understood

- Tolerating writing mistakes

- Allowing longer time for finishing a task if needed

- Working in a pair or a team with pears

- Check the ability of students to read primary and secondary sources and act according to results (more practice, allowing more time for group work)

**ADHD**

- Bigger font and space between rows

- Shorter paragraphs

- Additional explanation of tables, graphs if needed

- Check which type of graphs/diagrams are suitable for the student

- Fewer questions on tests

- Frequent checking if a student is concentrated on the work

- Questions and enough space for answers should be on the same page

- Work in pairs or small teams (up to four)

- Creating summary sheets when needed

- Encourage students to participate in class discussions

- Commend student on progress

- Regularly make notes about progress in e-dnevnik