MYP 4 Course overview 2019/2020 ***BIOLOGY***

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Unit title** | **Key concept** | **Related concepts** | **Global context** | **Statement inquiry** | **Objectives** | **Assessment tasks** | **ATL skills** | **Content** |
| Unit 1  ***The scientific method***  September, October 2019 | Perspective | Evidence  Patterns | Scientific and technical innovation | Scientific and technological advances enable societies to understand (or at least, to try to understand) the universe | A  B  C  D | Discussion about the scientific method(D)  Practical works: analysis of results(C)  End-of-unit or chapter tests(A)  Examples of design (B) | Communication,  Collaboration,  Critical thinking,  Creative thinking | Elements of the scientific method  Experimental approach  How to design an experiment  Variables in experiment  How to understand graphs and tables  Data analysis |
| Unit 2  ***Evolution***  November 2019 | Change | Environment  Consequences  Balance | Fairness and development | Evolution is a consequence of the unbalanced opportunities provided by natural selection | A  C  D | End-of-unit or chapter tests (A)  Analysis of similarities between various bones: collection and interpretation of data (C)  The social impact of evolution (discussion and written piece of work)(D) | Organization  Collaboration  Communication  Information literacy  Critical thinking | Definition of evolution  Evidence for evolution (fossil record, homologous structures, breeding)  Overproduction, variation, natural selection and inheritance  Evolution and sexual reproduction  Evolution in response to environmental change |
| Unit 3  **The chemistry of life**  December 2019  January,  February,  March 2020 | Relationships | Function | Identities and relationships | There is a strong relationship between the structure and function of biologically important compounds | A  B  C | Practical work on biologically important compounds and enzymes (B, C)  End-of-unit or chapter test | Organization  Collaboration  Communication  Information literacy  Reflection  Critical thinking | Biologically important compounds  Proteins and enzymes  Carbohydrates  Lipids  Nutrition (proteins, carbohydrates and lipids in our diet)  Conscious eating and healthy diet |
| Unit 4  **INTERDISCIPLINARY UNIT**  **Growth of the cells**  April, May, June 2020 | Connections | Interaction  Form | Identities and relationships | Life is the product of numerous interactions | A  B | How to use the microscope (B)  End-of-unit or chapter tests(A) | Communication (group work)  Collaboration (group work)  Reflection | Cells, organelles  Cell membrane  Cell to cell communication  Transport through the membrane  Diffusion  Osmosis |

MYP 5 Course overview 2019/2020 ***BIOLOGY***

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Unit title** | **Key concept** | **Related concepts** | **Global context** | **Statement inquiry** | **Objectives** | **Assessment tasks** | **ATL skills** | **Content** |
| Unit 1  ***The human reproductive system***    September, October 2019 | Development | Consequences | Personal and cultural expression | Sexual development and its consequences for personal and cultural expression | A  D | Discussion about methods of contraception and social issue (D)  End-of-unit or chapter tests(A) | Organization  Collaboration-working in groups  Communication  Information literacy  Reflection: self-evaluation  Thinking- Transfer | The basic anatomy of human reproductive system  Sexual development  The menstrual cycle  Pregnancy and birth  Contraception  Personal aspects of sex  Sexually transmitted diseases  Responsible sexual behaviour |
| Unit 2  **The nervous system and drugs**  November,  December 2019 | Systems | Balance  Function | Orientation in time and space | Orientation in time and space depends on healthy and balanced nervous system | A  B  C  D | End-of-unit or chapter tests(A)  Design scientific investigation about learning in humans (B)  Learning in humans, data analysis (C)  Application of science: pills, drugs or help, written piece of work (D) | Organization-time management  Collaboration  Communication  Information literacy  Media literacy  Reflection: self-evaluation  Thinking-  Transfer | General plan of the nervous system  Nerve cells  Nerve impulse  The brain and behaviour  The brain and learning  The brain and sleep  Drugs and mental  illness |
| Unit 3  ***Water***  January 2020 | 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  B  C | Practical work on properties of water important for living beings(B,C)  End-of-unit or chapter tests(A) | Organization-time management  Collaboration  Communication  Reflection: self-evaluation  Creative thinking (design of experiment) | Water: the structure  Hydrogen bonds  Properties of water  The relationship between the properties of water and life as we know it |
| Unit 4  **Basic ecology**  February, March, April, May, June 2020 | Systems | Environment  Interaction  Energy | Globalization and sustainability | Organisms interact with the natural environment by transferring matter and energy | A  D | Discussion about fossil fuels and our future (D)  End-of-unit or chapter tests(A) | Organization-time management  Collaboration  Communication  Information literacy  Media literacy  Reflection: self-evaluation  Thinking-  Transfer | Communities and ecosystems  Food chains  Pyramids of energy  The role of bacteria  The greenhouse effect and the precautionary principle  Consequences of a global temperature rise on ecosystems  Populations  Population growth curve  Binomial system of nomenclature  Natural classification |