Biology

10th Grade Intl. *[3 periods per week]*

Ms. Sally-Anne Ganley

Course Description

According to Aristotle, "the whole is greater than the sum of its parts." Students learn the workings of each body system and how the structure is related to the function for a system to work effectively. This dynamic relationship is explored through investigating human physiological processes and their impact on human health. Students learn to make connections between the theory and the practical application of that knowledge in themselves and in nature.

The courses focus on the demonstration of skills, as below, thereby enabling students to become critical thinkers and inquirers, who understand the value of developing scientific inquiry skills and their applications of knowledge based on valid and reliable evidence in real life situations.

Reflection is a key component in the learning process, and will be evident throughout the program to facilitate evaluation and progress as a learner. Metacognition empowers students to distinguish between opinion, beliefs and scientific constructs and their interplay in the production of knowledge.

Students will be introduced to the IB Command terms, ATL's and standards of practice.

The skills that will be cultivated in this course include:

Criterion A: Knowing and understanding: Students develop scientific knowledge (facts, ideas, concepts, processes, laws, principles, models and theories) and apply it to solve problems and express scientifically supported judgements.

Criterion B: Inquiring and designing: Students develop intellectual and practical skills through designing, analyzing and performing scientific investigations.

Criterion C: Processing and evaluating: Students collect, process and interpret qualitative and/or quantitative data, and explain conclusions that have been appropriately reached.

Criterion D: Reflecting on the impacts of science. Students evaluate the implications of scientific developments and their applications to a specific problem or issue. Varied scientific language is applied to demonstrate understanding. Students become aware of the importance of documenting the work of others when communicating in science.

Timeline

August - December: Physiological processes in humans and the factors affecting human health.
December - February: Ecosystems with a focus on the interactions between species and their impact on the environment. (E.g. intro to climate change, deforestation)
February- April: Genetics: Inheritance of characteristics, variation and selection through the lens of diversity and adaptations to survival.
April - June: Biological processes in plants e.g. photosynthesis and respiration in plants through experimentation

Resource: *Davis, A., & Deo, P. (2018). Biology: MYP by concept 4 & 5. London: Hodder Education, An Hachette UK Company.*