

# Biology - Higher Level

11<sup>th</sup> Grade IB [5 periods per week]

Ms. Sally-Anne Ganley

## Course Description

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Biology is the study of life. Although mass extinctions have occurred in the past, there are over 8 million different species on the planet today as a result of reproduction and natural selection. This diversity makes the study of biology an important and fascinating one for humans, as the world around us is undergoing a rapid change. Increases in population and changes in climate have placed extreme pressures on food and water supplies, as well as habitats of other species. Biology is a young science and is undergoing exponential growth, as technologies improve. Biologists study the relationships between different species, their different habitats and how they interact with each other. Through the application of the scientific method and an array of different technologies, biologists are piecing together a greater understanding of the world, as we know it.

All students will design, and perform an individual investigation as a part of their DB Biology course work. They will demonstrate knowledge and understanding of scientific methodologies and terminology. They will apply facts, concepts and techniques for communicating scientific information. They will formulate, analyze and evaluate their own work. They will demonstrate the appropriate research, experimental, and personal skills to carry out an insightful investigation.

## Timeline

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This course (over the two years) will focus on 6 major topics, one option, a group 4 project and practical work totaling 150 hours. The distribution of time devoted to each portion of this course is defined below:

- **Core Work:** 95 hours
- **Additional HL:** 60 hours
- **Option:** 25 hours
- **Practical Work:** 60 hours (includes practical work, internal assessment and Group 4 project)

### Covered in Grade 11:

Topic 1 - Cell Biology

Topic 2 - Molecular Biology

Topic 3 - Genetics

Topic 4 - Ecology

Topic 5 - Evolution and Biodiversity

Topic 7 - Nucleic Acids (HL)

Topic 8 - Metabolism, Cell Respiration and Photosynthesis (HL)