**Introduction to Biology Courses in SHSBNU**

There are different levels of Biology courses in SHSBNU international division. For those students who have the best potential and enthusiasm in Biology (about 20% of all students), they would usually choose to learn Accelerated Biology in summer vacation before grade 11, Honored Biology in 1st semester of grade 11, Genetic Engineering Experiment in 2nd semester of grade 11. In some special cases, students (about 5%) would even choose to learn these courses in grade 10.

The **Accelerated Biology Course** or Standard Lv. Biology Course, would normally take 60 hours to finish. Students would learn: molecules of life, cell structure and metabolism, cell cycle and genetics, basic molecular biology, basic concepts of evolution, regulatory systems in human physiology, and basic concepts in ecology.

The **Honored Biology Course** aims for SAT2 and AP Biology tests, it would take another 60 hours to finish, and students would learn: phylogeny and systematics of life, invertebrates structure and evolution, structure and evolution of chordates, plant structure and evolution, detailed physiology in animal tissues and 10 human systems; as well as supplementary knowledge in ecology, biomolecules, biochemistry and animal ethology.

The **Genetic Engineering Experiment** takes 20 hours to teaching and practicing the students: basic concepts of genetic modification, technics in bacterial culture, plasmid extraction, enzyme digestion and ligation of DNA, electrophoresis to examine DNA molecule, plasmid construction and transformation, and induced gene expression of GFP.

By learning through all these courses, the students are welly armed and prepared to engage the challenge in Biology contests like iGEM, and even real world Biology research.