IB BIOLOGY SL/HL	
Teacher and Email	Mr. Herb Eisenberg Herbert.eisenberg@teacher.cis.edu.vn
Course Codes	IBBIOS1 and IBBIOS2, or IBBIOH1 and IBBIOH2
General Description	Biology is the study of life. Humans have a natural interest in biology since we are living organisms ourselves and coexist with millions of other living species. These species form complex relationships with each other such that the ability of one of these species to survive is linked to survival of many others. In this course, students will learn about biology at many different levels. At one end of the scale is the study of life at the molecular level where cellular structures and the molecules they rely on create a microscopic environment that is fascinating in its complexity. At the other end is the study of entire ecosystems that contain countless species that must compete with each other to survive. Humans have accumulated a large body of knowledge about living things through both observation and experimentation. Much of this knowledge was gained thanks to the advancement of technology over the past 2-3 centuries. While students will be responsible for learning and understanding many important concepts, they will also be taught to appreciate the scientific approaches and techniques that were taken in order to come up with this knowledge. In addition to this, students will be examining some topics from an ethical point of view. New advancements in the areas of genetic engineering and medicine have created tremendous controversy and are the subjects of much debate. Students taking the SL and HL Biology courses will be evaluated in several ways. While externally marked exams will be a major part of the evaluation process, students will also be required to complete a major scientific investigation. This investigation will assess a student's ability to use the scientific method to test a hypothesis, collect data and analyse it appropriately. The topics covered and evaluation details of the course are shown below.
Syllabus Breakdown + hours	Teaching hours **Core Topics** Topic 1: Cell biology 15 Topic 2: Molecular biology 21 Topic 3: Genetics 15

Syllabus Breakdown + hours (continued)	Topic 4: Ecology 12 Topic 5: Evolution and biodiversity 12 Topic 6: Human physiology 20
	Additional higher level (AHL) **Group 4 Project (collaborative assignment for all science students)** 10 Topic 7: Nucleic acids 9 Topic 8: Metabolism, cell respiration and photosynthesis 14 Topic 9: Plant biology 13 Topic 10: Genetics and evolution 8 Topic 11: Animal physiology 16 Topic 12: Advanced Human Physiology 15 (HL & SL)
Internal Assessment	**Scientific Investigation** **20% of final mark** (10 hours) Internal assessment is an integral part of the course and is compulsory for both SL and HL students. It enables students to demonstrate the application of their skills and knowledge, and to pursue their personal interests, without the time limitations and other constraints that are associated with written examinations. The internal assessment will be woven into normal classroom teaching so it will not be a separate activity conducted after a course has been taught. The internal assessment requirements at SL and at HL are the same.
External Assessments	**Paper 1** **Duration: ¾ hour (SL) or 1 hour (HL)** **Weighting: 20% (SL & HL)** **Marks: 30 (SL) or 40 (HL)** • 30 (SL) or 40 (HL) multiple-choice questions on material covered in class
	Paper 2 **Duration: 1¼ hours (SL) or 2¼ (HL)** **Weighting: 40% (SL) or 36% (HL)** **Marks: 50 (SL) or 72 (HL)** • Data-based question. • Short-answer and extended-response questions on core material.
	Paper 3 **Duration: 1 hour (SL) or 1¼ (HL)** **Weighting: 20% (SL) or 24% (HL)** **Marks: 35 (SL) or 45 (HL)** • Short answer and extended response questions on all topics covered

Resources

1. Allot, A., & Mindorff D., *Biology 2014 Edition*, Oxford University Press, 2014
2. Damon, A., McGonegal, R. et al., *Higher Level Biology*, Pearson Education Ltd., 2014

A variety of additional support material will be used in addition to the primary texts