

都立国際高校 年間授業計画 / Tokyo Metropolitan Kokusai High School Course Syllabus

科目基礎情報 / Course information

開講年度 / Academic year	令和4年度 / 2022年度
開講学科 / Department	国際学科国際バカロレアコース / IBDP(International Baccalaureate Diploma Programme)
教科 / Subject	Science
科目 / Course Title	DP Biology Standard Level (SL)
学年・クラス / Year・Class	2 (IBDP 1st Year)
単位数 / credits	4

科目概要情報 / Course description

講座概要 / Course description	Biology is the study of nature in the scale of living organisms. DP Biology aims to develop the understanding of the biology contents and also develop skills and techniques that are necessary for scientific investigations in university level.
到達目標 / Course objectives	Through the overarching theme of the nature of science, the aims of the DP physics course are to enable students to: <ul style="list-style-type: none"> * appreciate scientific study and creativity within a global context through stimulating and challenging opportunities * acquire a body of knowledge, methods and techniques that characterize science and technology * apply and use a body of knowledge, methods and techniques that characterize science and technology * develop an ability to analyse, evaluate and synthesize scientific information * develop a critical awareness of the need for, and the value of, effective collaboration and communication during scientific activities * develop experimental and investigative scientific skills including the use of current technologies * become critically aware, as global citizens, of the ethical implications of using science and technology
評価方法と評価基準 / Evaluation method and criteria	Students will be evaluated as follows: Paper 1: 40 multiple-choice questions, duration 1 hour, weighing 20%, marks 40 Paper 2: Short-answer and extended-response questions on core and AHL, duration 2 hours and 15 minutes, weighing 36%, marks 95 Paper 3: Questions on core and HL option material, duration 1 hour and 15 minutes, weighing 20%, marks 24 Internal assessment: Duration 10 hours, weighing 20%, 24 marks
教科書 / Textbooks	Biology (2014 Edition) by David Homer and Michael Bowen-Jones
校外学習 / Field trip	

授業計画 / Course schedule

	指導項目 / Topic	指導内容 / Contents	評価の方法・基準 / Evaluation method and criteria	予定時数 / Allotted hours
1学期 / 1st semester	4月 Ecology	Species, communities and ecosystems Energy flow	Assignments, Class Activity, Tests, Lab Report	12
	5月 Cell Biology	Carbon cycling Climate change Introduction to cells Ultrastructure of cells Membrane structure	Assignments, Class Activity, Tests, Lab Report	16
	6月 Molecular Biology	Membrane transport Origin of cells Cell division Meiosis Molecules to metabolism Water	Assignments, Class Activity, Tests, Lab Report	18
	7月	Carbohydrates and lipid Proteins Enzymes		16
2学期 / 2nd semester	9月	Structure of DNA and RNA DNA replication, transcription and translation Cell respiration Photosynthesis		16
	10月 Human physiology	Digestion and absorption The blood system Defense against infectious disease	Assignments, Class Activity, Tests, Lab Report	16
	11月	Gas Exchange Neurons and synapses Hormones, homeostasis and reproduction		16
	12月 Genetics	Genes Chromosomes	Assignments, Class Activity, Tests, Lab Report	12
3学期 / 3rd semester	1月	Meiosis Inheritance Genetic modification and biotechnology		10
	2月 Evolution and biodiversity	Evidence for evolution Natural selection Classification of biodiversity Cladistics	Assignments, Class Activity, Tests, Lab Report	16
	3月 Revision	Revision	Past examinations	8