

Course Description:

This course targets science students not having sufficient biological knowledge for the entry to a life science program of a 4-year undergraduate curriculum. It provides students with a general overview of fundamental biology: basic characteristics of life (the chemistry of life, cells), vital life processes (respiration, photosynthesis), and essential concepts of genetics, evolution, and ecology.

Credit Points: 3

Intended Learning Outcomes (ILOs):

On successful completion of this course, students are expected to be able to:

1. describe the basic characteristics of life and its composite units
2. describe the interactions of organisms with each other and with the physical environment, taking particular account of energy source, the survival of individuals and the survival of a group.
3. apply the basic knowledge of the characteristics of life and the interactions of organisms to explain essential life processes.
4. illustrate how life science provides an investigative approach to interpreting the natural world.

Weekly Meeting Venue & Timeslots:

Venue: CYT-G010 Timeslots: Mon 13:30-14:50 & Fri 9:00-10:20

Course Schedule:

Topics	Dates
Course Introduction	Feb 4
(1) Chemical Nature of Living Things	Feb 7, 11, 14, 18, 21
(2) Spatial Definition of an Organism	Feb 25, 28, Mar 4
(3) Self Material Production & Energy Acquisition by Living Things	Mar 7, 11, 18
Mid-Term Exam	Mar 14
(4) Determination of Form & Function of an Organism	Mar 21, 25, 28
(Special Topic) Viruses, Immune Responses & Vaccines	Apr 1, 4
(5) Making of a New Life	Apr 8, 11, 22
(6) Differences among Living Individuals & Their Generation	Apr 25, 29, May 6
Individual Project Report Submission Deadline	May 15 23:59

Student Learning Activities:

Attending lectures, asking and answering questions, working on end-of-topic review questions and the individual project

Student Learning Resources:

Lecture notes, lecture videos, end-of-topic review question sets, any textbooks for university/college-level introductory biology or high-school level biology as references (Examples: 1. Campbell Biology Concepts & Connections, Reece et al., Pearson; 2. Inquiry into Life, Mader & Windelspecht, McGraw Hill), biology-related resources in libraries and media

Assessment Scheme:

Individual Project (10%), assessing ILO 4

Mid-Term Exam (30%), Final Exam (60%), assessing ILOs 1, 2 & 3

Instructor:

Dr. Eugene S.C. Hung (bohsc@ust.hk, x7303, Room 5451)