

Division of Life Science
The Hong Kong University of Science and Technology

LIFS 1930 Nature of Life Sciences

Spring semester, 2021-2022

Credits: 3

| | | |
|--------------------|------------------|------------------------|
| Course coordinator | Dr. Philip Lam | |
| Instructors | Dr. Jessica Tang | bocemun@ust.hk, x7314 |
| | Dr. Philip Lam | ylam@ust.hk, x8714 |
| | Dr. Melody Leung | bomleung@ust.hk, x8634 |

Course goals

This is an innovative blended-learning course that comprises both independent e-learning and online face-to-face tutorial components. The course covers general and up-to-date topics such as conservation biology and animal forms and functions in the field of Biology, metabolism and cell signaling in Biochemistry, and recombinant DNA, animal and plant biotechnology and bioethics in Biotechnology.

Intended Learning Outcomes

At the end of this course, students will be able:

- To acquire fundamental knowledge through computer-assisted learning in the areas of biochemistry, biology and biotechnology.
- To cultivate self-paced practice, feedbacks and monitoring of self-progress.
- To be able to inaugurate global connection.
- To be able to utilize in-class game-based / case study activities to reinforce on-line learning.
- To develop higher order skills in order to make critical and rational judgments over societal concerns in life sciences.
- To seek and share biological knowledge, independently and in collaboration with others.

Assessment scheme

| Components | Percentage |
|-----------------------------|------------|
| Online quiz | 10 |
| Participation mark# | 10 |
| Written assignment * | 20 |
| Final examination 1.5 hours | 60 |

Note: #Two or less no- shows are allowed after add/drop period.

*Each student is required to write a 400-word essay on one of the assigned topics. Topics are related to the content of the face-to-face tutorials. The assignment topics will be announced on April 27th, 2022.

Class outline

Tutorials (Each student is assigned to attend one of the following sessions by ARRO, please check with your course registration information):

LIFS1930 (T1) Wednesday 13:30-14:50; Rm 5620

LIFS1930 (T2) Wednesday 15:00-16:20; Rm 5620

| Date | Topic | Instructor |
|--------|----------------------------------|------------|
| Feb 9 | Biodiversity and Evolution | Tang |
| Feb 16 | Ecology | Tang |
| Feb 23 | Conservation Biology | Tang |
| Mar 2 | Animal Form and Function | Lam |
| Mar 9 | Cell Signaling | Lam |
| Mar 16 | Metabolism and Nutrition | Lam |
| Mar 23 | Transcription and Translation | Leung |
| Mar 30 | Stem Cells | Leung |
| Apr 6 | Recombinant DNA | Leung |
| Apr 20 | Animal Biotechnology | Leung |
| Apr 27 | Plant Biotechnology | Leung |
| May 4 | Bio-ethics and Public Acceptance | Leung |