

Biology of Human Health

LIFS 1020 (Summer 2020)

Instructors:

Dr. Jessica Tang (bocemun@ust.hk)

Dr. Philip Lam (ylam@ust.hk)

Meeting Time and Venue

Time: 10:00 am – 12:20 pm (Mon, Wed, Fri)

Venue: Zoom Online Meeting

Course Description:

Credit Points: 3

Pre-requisite: Nil

Exclusion: LIFS 1901, LIFS 1902, Level 3 or above in HKDSE 1/2x Biology OR in HKDSE 1x Biology, OR HKAL Biology, LIFS 4760

This course aims to provide students with contemporary knowledge of biological, environmental and societal factors that are related to the health and well-being of human individuals. The health of human, environment as well as society are interrelated. By corollary, it is essential to fully understand human health and diseases in terms of biological disparities. In the past few years, there has been a growing interest in integrating human health, environment and society between practitioners from differential fields. Objective of the course is to address the correlations between the three corresponding areas under a challenging, interdisciplinary nexus.

Intended Learning Outcomes:

By the end of this course, the students are expected to be able to:

1. Explain fundamental principles and interplayed relationships between biology, environment and society in human health.
2. Identify roles of biological disciplines in human health.
3. Recognize the consequences of biological disparities in relation to human health.
4. Describe the effects of environmental and societal factors on human health.
5. Discuss the importance of nutrition and exercise in maintenance of healthy lifestyles.

Assessment Scheme:

- (a) Final Exam: All MC questions
- (b) Written assignment: Short essay
- (c) In class quizzes: All MC questions
- (d) In class participation

Percentage of exam and course work

<u>Assessment</u>	<u>Assessing Course ILOs</u>
50% by Final Exam	(1), (2), (3), (4), (5)
25% by short essay	(1), (2), (3), (4), (5)
15% by quizzes	(1), (2), (3), (4), (5)
10% participation*	(1), (2), (3), (4), (5)

*Students are required to turn on their webcams during class

Student Learning Resources:

Recommended Reading:

Human Health: Biology, Environment and Society (2009), McGraw Hill.
Mulvihill ML, Zelman M, Holdaway P, Tomparly E and Raymond J (2006) *Human Diseases*. 6th

Teaching and Learning Activities:

Students have to attend lectures which are assisted by video presentations. They also need to work on a short essay on a selected topic.

Course Schedule

LIFS 1020 (2020 Summer Semester)

Date	Topic	Instructor
June 22	Interdisciplinary Overview of Biology, Environment and Society on Human Health	Lam
June 24	Biological Organization of the Human Body System – From Cells to Organisms	Lam
June 26	The Maintenance of Life I - Needed or Unneeded (<i>e.g. Characteristics of life</i>)	Lam
June 29	The Maintenance of Life II - Needed or Unneeded (<i>e.g. Carbohydrates & Lipids</i>)	Lam
July 3	The Maintenance of Life III - Needed or Unneeded (<i>e.g. Proteins</i>)	Lam
July 6	Environmental Health I - Toxic versus non-toxic (<i>e.g. Air/Land/Water Pollution</i>)	Lam
July 8	Environmental Health II - Hot versus Cold (<i>e.g. Global Warming</i>)	Lam

July 10	No class	
July 13	The Foreigners - To Live or to Die (<i>e.g. Bacterial Infections or AIDS</i>)	Tang
July 15	The Pumping Heart - Supply versus Demand (<i>e.g. Hypertension</i>)	Tang
July 17	The Busy Brain - To Think and to Sense (<i>e.g. stress, depression; Alzheimer's diseases etc.</i>)	Tang
July 20	The Crazy Cell - To Divide or to Stop (<i>e.g. Cancers</i>)	Tang
July 22	Societal Health – Aged versus Young (<i>e.g. Family Stress, Financial Burden and Medical Management</i>)	Tang
July 24	Healthy Lifestyles – Fit versus Unfit (<i>e.g. Exercise and Training</i>)	Tang
July 27	Final Exam (scope: June 22 to July 24)	