

## **Biology of Human Health**

### **LIFS 1020 (Summer 2017)**

#### **Instructors:**

Dr. Helen Cheung ([cheungh@ust.hk](mailto:cheungh@ust.hk))

Dr. Philip Lam ([ylam@ust.hk](mailto:ylam@ust.hk))

#### **Meeting Time and Venue**

Time: 2:00 pm – 4:20 am (Mon, Wed, Fri)

Venue: Rm 2464

#### **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) Midterm Exam: 90 min; Final Exam (90 min); All MC questions
- (b) Written assignment
- (c) In class quizzes
- (d) Percentage of exam and course work

<u>Assessment</u>	<u>Assessing Course ILOs</u>
30% by Midterm Exam	(1), (4), (5)
30% by Final Exam	(2), (3), (5)
20% by short essay	(1), (2), (3), (4), (5)
20% by quizzes	(1), (2), (3), (4), (5)

### Student Learning Resources:

Recommended Reading:

Human Health: Biology, Environment and Society (2009), McGraw Hill.  
Mulvihill ML, Zelman M, Holdaway P, Tompany 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 (2017 Summer Semester)

<b>Date</b>	<b>Topic</b>	<b>Instructor</b>
Jun 19	Interdisciplinary Overview of Biology, Environment and Society on Human Health	Lam
Jun 21	Biological Organization of the Human Body System – From Cells to Organisms	Lam
Jun 23	The Maintenance of Life I - Needed or Unneeded (e.g. <i>Characteristics of life</i> )	Lam
Jun 26	The Maintenance of Life II - Needed or Unneeded (e.g. <i>Carbohydrates &amp; Lipids</i> )	Lam
Jun 28	The Maintenance of Life III - Needed or Unneeded (e.g. <i>Proteins</i> )	Lam
Jun 30	Environmental Health I - Toxic versus non-toxic (e.g. <i>Air/Land/Water Pollution</i> )	Lam
July 3	Environmental Health II - Hot versus Cold (e.g. <i>Global Warming</i> )	Lam
<b>July 5</b>	<b>Mid-term Exam, venue: TBC (scope: Jun 19 to July 3)</b>	
July 7	The Foreigners - To Live or to Die (e.g. <i>Bacterial Infections or AIDS</i> )	Cheung

July 10	The Pumping Heart - Supply versus Demand ( <i>e.g. Hypertension</i> )	Cheung
July 12	The Busy Brain - To Think and to Sense ( <i>e.g. stress, depression; Alzheimer's diseases etc</i> )	Cheung
July 14	The Crazy Cell - To Divide or to Stop ( <i>e.g. Cancers</i> )	Cheung
July 17	Societal Health – Aged versus Young ( <i>e.g. Family Stress, Financial Burden and Medical Management</i> )	Cheung
July 19	Healthy Lifestyles – Fit versus Unfit ( <i>e.g. Exercise and Training</i> )	Cheung
<b>July 21</b>	<b>Final Exam, venue: TBC (scope: July 7 to July 19)</b>	