

Fall 2018

## LIFS 1010: APPRECIATION OF BIOLOGICAL SCIENCE

**Course goal:** This course aims to introduce to students diversity of life forms; origin of life; chemical basis of life; cell structure and function; genetics and molecular biology; structure and life processes in animal and plants; evolution; ecology and environment.

### Intended learning outcomes:

1. Explain fundamental principles and inter-relationship among biochemicals, cells, and life.
2. Describe the process of evolution and its implication in biodiversity.
3. Describe the structure and life processes in human.
4. Explain the inter-relationship between organisms and the environment.
5. Apply the biological knowledge in explaining current issues relating to human life.

**Text Book:** Biology, Campbell, 11th ed. by Reece, Urry, Cain *et al.* (2016) Pearson

**Entry Levels:** The course is designed for non-biology major students who are interested in learning about the biology related to the human body functions and the rest of the world.

**Course format:** Two 80-minute lecture per week. Grades will be based on the results of one midterm examination (50%) and one final examination (50%).

Lecture time/venue:

Monday 12:00 – 13:20 Rm2502  
Wednesday 12:00 – 13:20 Rm2502

Instructors	Room	Tel.	Email
Prof. Andrew L. Miller*	5453	x8631	almiller@ust.hk
Prof. Zhenguo Wu	5527	x8704	bczgwu@ust.hk
Dr. Melody Leung	5450	x8634	bomleung@ust.hk

\*Course Director

DATE	TOPIC	LECTURER
	<b>Fundamentals of life</b>	Wu
Sept 3, 5	Atoms, molecules, and life's chemistry	
Sept 10, 12	The cell: basic unit of life	
	<b>The perpetuation of life</b>	Wu
Sept 17, 19	Cell cycle and Meiosis	
Sept 24, 26	Chromosomes and DNA	
	<b>Evolution</b>	Leung
Oct 3	Darwinian evolution theory	
	Evidence for evolution	
Oct 8	Microevolution	
	Macroevolution	
	Origin and history of life	
	<b>Diversity of Life</b>	Leung
Oct 10	Viruses and prokaryotes	
<b>Oct 15</b>	<b>MIDTERM EXAMINATION</b>	

	<b>Diversity of Life</b>	Leung
Oct 22	Protists	
Oct 24	Fungi and plants	
Oct 29	Invertebrates and chordates	
	<b>Ecology</b>	Leung
Oct 31	Population dynamics	
Nov 5	Community	
Nov 7	Ecosystems and the Biosphere	
	Environmental challenges	
	<b>Human biology</b>	Miller
Nov 12	The nervous system	
Nov 14	Senses and the brain	
Nov 19	Muscles and movement	
Nov 21	Heart and circulation	Miller
Nov 26	Lungs and breathing	
Nov 28	Kidney and excretion	
<b>Dec 3 – 7</b>	<b>Study Break</b>	
<b>Dec 8 - 20</b>	<b>END OF TERM EXAM (to be arranged by ARRO)</b>	