

## LIFS4380: Pharmacology and Toxicology

### Course description:

Fundamental concepts of drug action and toxicity; clinically useful agents in central and peripheral disorders; toxicology of drugs and agents that are hazardous to living organisms.

*Prerequisite:* LIFS 3040 or LIFS 3060

*Number of credits:* 3

*Course format:* Two 80-minute sessions of lecture/tutorial per week

*Lecture time & venue:* Tuesdays & Thursdays, 1:30 – 2:50 pm, Classroom 1406 (near Lifts 25/26)

### Intended Learning outcomes (ILOs):

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

1. Explain the fundamental concepts of pharmacokinetics and pharmacodynamics, therapeutic effects and toxicities of drugs acting on the cardiovascular, renal, endocrine and nervous systems, medical agents with chemotherapeutic and anti-inflammatory functions, and toxic chemicals in the environment.
2. Apply existing bioscience knowledge to pharmacological applications.
3. Examine the correlations between pharmacology and other bioscience topics such as physiology, cell biology, microbiology, neurochemistry and the molecular basis of diseases.
4. Identify some of the complex issues facing biosciences professionals.

### Learning Resources

*Textbook:* Pharmacology and Toxicology at a Glance, 1<sup>st</sup> ed., by Y.H. Wong & A.S.L. Chan (2013) McGraw Hill

*Additional reading material:* The Pharmacological Basis of Therapeutics (Goodman & Gilman) MacMillan Publishing Co. RM300.G644.2006

### Assessment Tasks (Weightings):

- Mid-term Exam (40%)
- Final Exam (60%)

The mid-term and final exams require students to describe and/or explain scientific terms, observations, phenomena, experimental data, etc. relevant to the broad topics stated in ILOs 1 to 3, which include the more specific topics stated in the course schedule.

Instructor	Office	Extension	Email Address
Prof. Yung Hou WONG	Room 5461	x7328	boyung@ust.hk

### Teaching and Learning Activities

Scheduled activities: two 80 min lecture/tutorial per week

- Lectures: focus on the delivery of knowledge and information in the specified topics
- Tutorials: focus on evaluation of students' understanding and integration of knowledge

## Course Schedule

<b>Date</b>	<b>Topic</b>	<b>Instructor</b>
Jan 31	Chapter 1: Introduction	Wong
Feb 12, 14	Chapter 2: Pharmacokinetics	Wong
Feb 19	Chapter 3: Pharmacodynamics	Wong
Feb 21	Tutorial 1	Wong
Feb 26, 28	Chapter 4: Autonomic Nervous System	Wong
Mar 5, 7	Chapter 5: General and Local Anaesthetics	Wong
Mar 12	Tutorial 2	Wong
Mar 14	Chapter 6: Hypnotics, Sedatives and Anti-depressants	Wong
<b>Mar 19</b>	<b>Mid-term exam</b>	Wong
Mar 21, 26	Chapter 7: Antihypertensive and Antiarrhythmic Drugs	Wong
Mar 28, Apr 2	Chapter 8: Diuretics and Anticoagulants	Wong
Apr 4	Tutorial 3	Wong
Apr 9, 11	Chapter 9: Anticancer and Immunosuppressive Agents	Wong
Apr 16, 25	Chapter 10: Antiparasitic and Antimicrobial Agents	Wong
Apr 30	Tutorial 4	Wong
May 2	Chapter 11: Local Hormones and Anti-inflammatory Drugs	Wong
May 7	Chapter 12: Toxic Chemicals	Wong
May 9	Chapter 13: Pesticides	Wong