

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: Wednesdays & Fridays, 3:00 – 4:20 pm, Classroom 4619 (near Lifts 31/32)

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, 1st 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

Date	Topic	Instructor
Feb 1	Chapter 1: Introduction	Wong
Feb 3, 8	Chapter 2: Pharmacokinetics	Wong
Feb 10	Chapter 3: Pharmacodynamics	Chan
Feb 15	Tutorial 1	Wong
Feb 17, 22	Chapter 4: Autonomic Nervous System	Wong
Feb 24, Mar 1	Chapter 5: General and Local Anaesthetics	Wong
Mar 3	Tutorial 2	Wong
Mar 8	Chapter 6: Hypnotics, Sedatives and Anti-depressants	Wong
Mar 10	Mid-term exam	Wong/Chan
Mar 15, 17	Chapter 7: Antihypertensive and Antiarrhythmic Drugs	Wong
Mar 22, 24	Chapter 8: Diuretics and Anticoagulants	Chan
Mar 29	Tutorial 3	Chan
Mar 31, Apr 5	Chapter 9: Anticancer and Immunosuppressive Agents	Chan
Apr 7, 19	Chapter 10: Antiparasitic and Antimicrobial Agents	Chan
Apr 21	Tutorial 4	Chan
Apr 26	Chapter 11: Local Hormones and Anti-inflammatory Drugs	Chan
Apr 28	Chapter 12: Toxic Chemicals	Chan
May 5	Chapter 13: Pesticides	Chan