

**Division of Life Science**  
**The Hong Kong University of Science and Technology**

LIFS 2820 Biochemistry laboratory Techniques  
Spring semester, 2019-2020  
Instructor: Prof Robert Ko  
Email: bcrko@ust.hk

Venue : Room 1103  
Date & Time: Thursday (12:00 – 12:50)

**Course goals**

To explain the theories and concepts behind the chosen experimental sessions designed for LIFS 2720.

**Learning Outcomes**

By the end of this course, you will be able to:

1. *Realize* what biochemistry is all about.
2. *Understand* how biochemical knowledge can be derived from experiments.
3. *Acknowledge* the background aims and principles of designated experiments arranged for the related practical course of LIFS 2720
4. *Expose* to basic mechanistic functions of common biochemical equipment.
5. *Recognize* the potential application(s) of various common biochemical equipment.

**Course description**

The course is designed to enable students to acquire a strong basis of biochemical principles established in the field of biochemistry. It is designed to introduce for first-year students to the underlying principles of essential biochemical techniques that have remained indispensable in experimental biochemistry.

**Teaching approach**

This course is primarily delivered through lectures.

**Assessment scheme**

Performance is assessed at the end of the semester by examination with MCQ and that contributes 100% to the course assessment.

## Class outline and schedule

Week/ Date	Lectures
5 Sep 2019	INTRODUCTION TO LIFS 2820 BRIEFING
12 Sep 2019	BUFFERS, TITRATIONS AND pH MEASUREMENT
19 Sep 2019	CHROMATOGRAPHY I AMINO ACID SEPARATION AND IDENTIFICATION
26 Sep 2019	CHROMATOGRAPHY II GEL FILTRATION COLUMN CHROMATOGRAPHY
3 Oct 2019	CHROMATOGRAPHY III SERUM ELECTROPHORESIS USING CELLULOSE ACETATE
10 Oct 2019	SPECTROPHOTOMETRY ENZYME KINETICS: LACTATE DEHYDROGENASE
17 Oct 2019	ORGANELLE ISOLATION BY CENTRIFUGATION AND MARKER ENZYME ASSAY
24 Oct 2019	METABOLIC SYNDROME (PART 1) GLUCOSE
31 Oct 2019	METABOLIC SYNDROME (PART 2) LIPID

## Reference books

No standard textbook required.