

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

LIFS 2820 Biochemistry laboratory Techniques
Spring semester, 2017-2018
Instructor: Prof Robert Ko
Email: bcrko@ust.hk

Venue : Room 2306
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 equipments.
5. *Recognize* the potential application(s) of various common biochemical equipments.

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
6 Sep 2018	INTRODUCTION TO LIFS 2820 BRIEFING
13 Sep 2018	BUFFERS, TITRATIONS AND pH MEASUREMENT
20 Sep 2018	CHROMATOGRAPHY I AMINO ACID SEPARATION AND IDENTIFICATION
27 Sep 2018	CHROMATOGRAPHY II GEL FILTRATION COLUMN CHROMATOGRAPHY
4 Oct 2018	CHROMATOGRAPHY III SERUM ELECTROPHORESIS USING CELLULOSE ACETATE
11 Oct 2018	SPECTROPHOTOMETRY ENZYME KINETICS: LACTATE DEHYDROGENASE
18 Oct 2018	ORGANELLE ISOLATION BY CENTRIFUGATION AND MARKER ENZYME ASSAY
25 Oct 2018	DNA MELTING CURVE
1 Nov 2018	METABOLIC SYNDROME (PART 1) GLUCOSE
8 Nov 2018	METABOLIC SYNDROME (PART 2) LIPID

Reference books

No standard textbook required.