BIOS6005 Pharmaceutical Bioinformatics **(1 credit)**

Course Coordinator: Prof. Maggie Wang

Course Description

The course will provide a broad overview and introduction to bioinformatics and its applications in pharmaceutical industry. Topics will cover (1) basic bioinformatics methods: hierarchical clustering, lasso, random forest, LDA, PCA, boosting, bootstrapping, etc. (2) data sequencing and management: microarray data, GWAS data, the raw data treatment and analysis method, batch effect and normalization, parallel programming in R; (3) phylogenic analysis; (4) Chemobioinformatics modeling, 3D structure, chemical - protein relation leading to drug discovery.

Prerequisite

1. BIOS5001 Introduction to Biostatistics

Recommended Background

1. BIOS5002 Linear Models
2. BIOS5003 Categorical and Survival Data Analysis

Learning Outcome

1. Understand the basic bioinformatics methods
2. Know how to use the software of conducting bioinformatics analysis
3. Know when to apply the methods under different scenarios and conduct exploratory research
4. Interpret data analysis output, and use graphical representations

Course Schedule

Session	Date	Time	Venue
1	May 5, 2017 (Fri)	6:30 – 9:30 pm	School of Public Health Prince of Wales of Hospital Shatin, N.T., Hong Kong
2	May 12, 2017 (Fri)	6:30 – 9:00 pm	
3	May 19, 2017 (Fri)	6:30 – 9:00 pm	
4	May 26, 2017 (Fri)	6:30 – 9:30 pm	
5	Jun 2, 2017 (Fri)	6:30 – 9:30 pm	

Fee

Application Fee: $100

Course Fee: $4,400