

## 97-2 大葉大學 選課版課綱

### 基本資訊

課程名稱	系統生物學	科目序號 / 代號	1930 / EGR5318
開課系所	電機工程學系碩士班	學制 / 班級	研究所碩士班1年1班
任課教師	吳幸珍	專兼任別	專任
必選修 / 學分數	選修 / 3	畢業班 / 非畢業班	非畢業班
上課時段 / 地點	(三)234 / H727	授課語言別	英文

### 課程簡介

A true understanding of genetic and metabolic function and design will crucially depend on mathematical and computational methods for analyzing biochemical systems. It will require new ways of thinking and novel approaches of integrative analysis. This course contains biochemists and molecular biologists in a hand-on fashion the use of modern computational methods for the analysis of complex biomedical systems.

### 課程大綱

課程綱要：

1. Introduction to DNA
2. Genome and Bioinformatics
3. Proteome and Transcriptome
  - - gene expression (transcription, translation)
  - - PLAS software
  - - Protein software(Swiss-pdb,rasmol,chime)
4. Analysis of DNA Microarray Data (nctu\_huang)
5. DNA chip(nctu\_huang)
6. Gene Software
  - - gene sequence alignment
  - - phylogenetic tree
  - - cluster
7. Modeling(wang)
  - - graphical representation
  - - models
8. Parameter Identification(wang)
  - - case studies (IGA approach)\_Harvest
9. Sensitivity Analysis (wang)
  - - robustness and fragility
10. D.E. in Bioblogy
11. Final Exam.

### 基本能力或先修課程

no