朝陽科技大學 094學年度第2學期教學大綱
Molecular Biology (I) 分子生物學(一)

當期課號	1451	Course Number	1451
授課教師	林一郎	Instructor	LIN,ELONG
中文課名	分子生物學(一)	Course Name	Molecular Biology (I)
開課單位	應用化學系(四日)三A	Department	
修習別	必修	Required/Elective	Required
學分數	3	Credits	3
課程目標	培養學生對分子生物學相關之基本知識,以便日後修習進階課程或從事研究工作產生興趣並深入了解分生原理，並由分子生物學的過去歷史、現在與未來發展，讓學生了解分子生物學應用於生物科技與現代醫學。	Objectives	Molecular Biology is the class for basic concept about structure of DNA, genes, and the regulation of the genes. This lecture can contribute to student's knowledge of molecular biology.
教材	書名Molecular Biology, 3rd edition 作著Robert E. Weaver The McGraw-Hill componies	Teaching Materials	Molecular Biology, 3rd edition/Robert E. Weaver/The McGraw-Hill componies
成績評量方式	出席與表現 10% 家庭作業 30% 隨堂考試 20% 期中考試 20% 期末考試 20%	Grading	attendence 10% Homeworks 30% quiz 20% Mid-term Exam 20% Final Exam 20%
教師網頁			
教學內容	本課程將說明分子生物之元件、基因組成之方式及技術，讓學員對於基礎生物醫學中之分子生物有基本概念，其內容如下： 說明構成生物體之元件，使學員了解組成生物體元件的成分及結構。 介紹基因的分子生物學，讓學員對於基因的分子生物學有基本概念。 介紹分子生物學之研究技術，使學員了解分子生物學研究技術之涵蓋範圍。 月/日 週次/課程內容 2/22 01/Introduction 3/1 02/Molecular nature of gene 3/8 03/DNA structure 3/15 04/Properties of nucleic acid 3/22 05/DNA Replication 3/29 06/DNA Replication 4/5 07/放假 4/12 08/DNA damage and repair 4/19 09/midterm exam 4/26 10/Transcription 5/3 11/Transcription 5/10 12/Post-transcriptional events 5/17 13/Translation 5/24 14/Translation 5/31 15/放假 6/7 16/Genomics and Proteomics 6/14 17/Review 6/21 18/final exam	Syllabus	Course Description: This course is designed for those students majoring or minoring in Biology. In this course, students will be introduced to the basic principles of molecular biology, including advanced of gene structure, regulation, expression, and replication. The laboratory component will involve learning basic laboratory skills of cloning and recombinant DNA technology. Please see the course schedule for the outline of topics to be covered. Objectives: Upon completion of this course, students will be able to - Describe the structure and components of DNA; Describe the regulatory mechanisms involved in DNA replication; Compare and contrast the regulation of gene expression in prokaryotes and eukaryotes; Perform (in the laboratory component of the course) basic laboratory skills in molecular biology; Critique scientific methodology and approaches Discuss current advances in the field of molecular biology; Explain different techniques used in molecular biology and recombinant DNA technology, including but not limited to restriction digestion, cloning, and transformation.

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