

101-1 Preliminary Syllabus, Da-Yeh Univ

Information			
Title	分子生物學專論	Serial No. / ID	1345 / MBR5005
Dept.	分子生物科技學系碩士班	School System / Class	研究所碩士班1年1班
Lecturer	游志文	Full or Part-time	專任
Required / Credit	Required / 3	Graduate Class	No
Time / Place	(三)234 / J501-3	Language	Chinese

Introduction
<p>Molecular Biology is the fundamental knowledge for the study of all living things. It describes the mechanisms of how organisms live, reproduce and evolve. The purpose of this course is to provide clear and concise explanations of the terminology used in molecular biology and genetics. The major course themes cover eukaryotic and prokaryotic DNA replication, chromosomal structure and function, eukaryotic and prokaryotic gene structure and function (transcription, translation, posttranslational modification), and how they relate to basic biological and chemical concepts (such as the action of evolutionary processes on living things) learned in previous courses.</p>

Outline
<p>Chapter1. Introduction: a brief history Chapter2. The molecular nature of genes Chapter3. An introduction to gene function Chapter4. Molecular cloning methods Chapter5. Molecular tools for studying genes and gene activity Chapter6. The transcription apparatus of prokaryotes Chapter7. Operons: fine control of prokaryotic transcription Chapter8. Major shifts in prokaryotic transcription Chapter9. DNA-protein interactions in prokaryotes Chapter10. Eukaryotic RNA polymerase and their promoters Chapter11. General transcription factors in eukaryotes Chapter12. Transcription activators in eukaryotes Chapter13. Posttranscriptional events I: splicing Chapter14. Posttranscriptional events I: capping and polyadenylation Chapter15. Posttranscriptional events II: other events Chapter16. The mechanism of translation I: initiation Chapter17. The mechanism of translation II: elongation and termination</p>

Prerequisite
1. Biology

2. Biochemistry

3. Fundamental Molecular Biology
