10520LSMC634800

酵素結構與催化機制

Enzyme Structures and Mechanisms

教師：王雯靜

時間：星期二 9:00 am~12:00 am

地點：生科二館206室

此課程主要內容為酵素結構機制與功能。所有生化反應都是在活生物體中進行酵素催化，酵素在代謝，診斷和治療中扮演重要角色。課程包括酵素分類，重要酵素催化機制 (active site、apoenzyme、 holoenzyme、prosthetic group、 allosteric regulation 、enzyme specificity)，酵素動力，結構與作用機制以及酵素抑制劑。

第　週	Topics
1	Introduction
2	The organic chemistry of enzyme-catalyzed reactions
3	Amino acids and proteins
4	Introduction to Protein Structure
5	Serine proteinase
6	Nitrilase
7	Oxygenase
8	Kinase
9	Mid-term
10	Epimerase
11	Measurement and magnitude of individual rate constants (II)
12	Practical methods for kinetics and equilibria
13	Stereochemistry of enzymatic reactions
14	Therapeutic antibodies
15	Special topics on enzyme structure (I)
16	Special topics on enzyme structure (II)
17	Special topics on enzyme structure (III)
18	Final Examination

參考書本

1. Fersht, A. (1999). *Structure and Mechanism in Protein Science—A Guide to Enzyme catalysis and Protein Folding*. Freeman.
2. Silverman, R. B. (2000). *The Organic Chemistry of Enzyme-Catalyzed Reactions*. Academic Press.
3. Carl Branden & John Tooze (1999). *Introduction to Protein Structure* 2nd edition, Garland publishing Inc.