

Syllabus for CHEM504500 PROTEIN STRUCTURE AND CHEMISTRY, Spring 2018

Instructor: Jia-Cherng Horng (洪嘉呈); E-mail: jchorng@mx.nthu.edu.tw

Lecture:

Time: T3T4F2

Room: CHEM114

Method: Lecture, 3 credits

Course Outline:

- Protein chemistry
 - Overview on amino acid chemistry and properties
 - Peptide/protein sequence analysis
 - Peptide synthesis
 - Chemical ligation
- Protein structure
 - Secondary/supersecondary structures
 - Noncovalent interactions in proteins
 - Globular and fibrous proteins
 - Membrane proteins
 - Protein aggregations
- Introduction of circular dichroism (CD)
- Principles and thermodynamics of protein folding

Note:

Some handouts are available on iLMS system. Print out your own copy and bring it to the class.

Grading:

Homework & Problem set	30%
Two exams	2 x 35% = 70%
■ 2018/4/17 (Tue)	
■ 2018/6/19 (Tue)	

References:

- T.E. Creighton (2010), *The biophysical chemistry of nucleic acids & proteins.*

- T.E. Creighton (1999), *Proteins – Structures and Molecular Properties*, 2nd Ed.
- A.V. Finkelstein & O.B. Ptitsyn (2002), *Protein Physics*.
- A. Fersht (1999), *Structure and Mechanism in Protein Science*.
- C. Branden & J. Tooze (1999), *Introduction to Protein Structure*, 2nd Ed.
- S.M. Hecht (Ed.)(1998), *Bioorganic Chemistry: Peptides and Proteins*.
- W.C. Chan & P.D. White (Ed.)(2000), *Fmoc Solid Phase Peptide Synthesis: A Practical Approach*.