Chemistry 501900
BIOPHYSICAL CHEMISTRY
Spring 2008

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

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Lecture:

Time: T3T4F2 Room: CHEM325 Method: Lecture, 3 credits

Course Description:

A fundamental course introducing the principles of physical chemistry that govern biological systems and processes, and the methods used for their investigation. Topics include Protein Structure; Protein Folding Thermodynamics and Kinetics; Basic Experimental Methods for Protein Folding Study; Molecular Thermodynamics; The Boltzmann Distribution Law and Statistical Thermodynamics; Biological Applications of Statistical Mechanics; Physical Chemistry of Membranes; Biological Magnetic Spectroscopy.

Grading:

Homework	30%
Mid-term exam	30%
Final exam	40%

Reference (indicates important books):*

- *T. Engel, G. Drobny, P. Reid, Physical Chemistry for the Life Sciences.*
- *K.E. van Holde, W.C. Johnson, P.S. Ho, Principles of Physical Biochemistry*.*
- *D. Eisenberg, D. Crothers, Physical Chemistry with Applications to the Life Sciences*.*
- *T.E. Creighton, Proteins – Structures and Molecular Properties.*
- *M. Daune, Molecular Biophysics – Structures in Motion.*
- *P. Atkins and J. Paula, Physical Chemistry for the Life Sciences.*
- *A.V. Finkelstein, O.B. Ptitsyn, Protein Physics*.*
- *A. Fersht, Structure and Mechanism in Protein Science*.*
- *C. Branden, J. Tooze, Introduction to Protein Structure, 2nd Ed.*