



MB201 Aug 2:0

Introduction to Biophysical Chemistry

Instructor

Raghavan Varadarajan
Email: varadar@iisc.ac.in

Teaching Assistant

Jayantika Bhowmick
Email: jayantika@iisc.ac.in

Department: Molecular Biophysics

Course Time: Tue., Thu., 11-12

Lecture venue: MBU Lecture hall

Detailed Course Page: <http://mbu.iisc.ac.in/courses.htm>

Announcements

None

Brief description of the course

Basic thermodynamic principles and application to biological systems

Prerequisites

None

Syllabus

Basic thermodynamics, ligand binding and co-operativity in biological systems, kinetics, diffusion and sedimentation.

Course outcomes

Students will study applications of equilibrium thermodynamics to biological systems and obtain a molecular level understanding of non-covalent interactions important for determining macromolecular conformation.

They will also become familiar with various methodologies for determining binding constants and hydrodynamic methods for estimating macromolecular size and shape.

Grading policy

20% assignments, 30% mid-term, 50% final exam

Assignments

There will be 5-6 assignments in the course which will be either problem based or require reading of assigned research papers followed by questions on the same.

Resources

Tinoco, I, Sauer K, Wang J C

Physical Chemistry, Principles and Applications in Biological Sciences

Prentice Hall, New Jersey, USA,

Cantor, C.R., and Schimmel P.R., Biophysical Chemistry, Vols. I-III,

W.H. Freeman and Co., San Francisco, USA, 1980.