

# **Department of Chemical Sciences**

Graduate Course on

## **Biochemistry and Biophysics**

### **Course Content**

- The chemical components of a cell and their importance
- Chemical properties of amino acids and peptides
- Molecular forces and types of interactions between molecules
- Conformational properties of macromolecules
- Proteins structure – Secondary, tertiary and quaternary associations
- Protein Function with many examples
- Enzyme catalysis – Theories and kinetics
- Regulation of enzyme activity – Inhibition and allostery
- Fundamental rate processes
- Protein translocation and degradation – Mechanisms

**Instructor: A. S. R. Koti**  
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*Mode assessment: 30% assignment, 30% mid-sem exam, and 40% Final exam.*

### **Suggested text books:**

- 1. Principles of Biochemistry by Lehninger, Nelson and Cox**
- 2. Molecular Biology of the Cell by Alberts, Bray, Lewis, Raff, Roberts and Watson**
- 3. Molecular and Cellular Biophysics by Meyer B. Jackson**
- 4. The Molecules of Life by Kuriyan, Konforti, Wemmer**

**Classes: 11:00 am on Mondays, Wednesdays, Fridays**

**Venue: AG80**

**First class: 14 September 2022**

**Teaching assistant: Ms. Simran Arora**