

## Syllabus MCB206

- Protein biochemistry and topology
- Optical spectroscopy: Absorbance and fluorescence
- Thermodynamic stability and protein folding
- Folding kinetics and thermodynamic cycles
- Directed evolution of proteins
- Forces that hold macromolecules together
- Polymer statistics
- Ligand binding and cooperativity
- Enzyme kinetics and allostery
- AFM imaging
- Single-molecule manipulation methods
- NMR spectroscopy
- X-ray crystallography
- SAXS
- Electron microscopy, electron tomography, and electron crystallography