Title: Protein Crystallography [3-0-0-6]

Content *:*

Brief introduction to protein structure, Protein production for crystallization, Protein crystallization, Crystal geometry, X-ray diffraction, Statistics and probability in crystallography, Instrumentation and diffraction data collection, Diffraction data to electron density, Solving phase problem, Isomorphous replacement method, Anomalous scattering method, Phase combination and improvement, Molecular replacement, Model building and refinement, Structure validation and deposition, Judging a crystallographic model, Computer program for analyzing protein structures, Tutorials, Structure analysis.

Texts / References:

1. Biomolecular Crystallography: Principles, Practice, and Application to Structural Biology by Bernhard Rupp: Garland Science, Taylor & Francis Group LLC., 1st edition, 2010.
2. Crystallography Made Crystal Clear: A Guide for Users of Macromolecular Models302224 by Gale Rhodes: Elsevier Inc., 3rd edition, 2006.
3. Principles of Protein X-Ray Crystallography302224 by Jan Drenth: Springer Science + Business Media LLC., 3rd edition, 2007.