

BIOS 482/552: Molecular Biophysics II

General Course Information

Advanced treatment of X-ray crystallography, NMR spectroscopy, and electron microscopy. Emphasis on theory and application of these methods for the determination of the three-dimensional structures and dynamics of biological molecules and complexes.

Texts

NMR

1. Evans, J.S. *Biomolecular NMR Spectroscopy*.

Supplemental texts have been placed on reserve in Fondren Library or are available from Dr. Nikonowicz.

Crystallography

Handouts will be provided to cover all topics discussed in class. However, to obtain more thorough information, please refer to the following books, which may be checked out from Dr. Tao's office for up to four hours at a time.

1. Drenth. *Principles of Protein X-ray Crystallography*. **Concise, broad.**
2. Stout, Jensen. *X-ray structure Determination, a practical guide*. **Easy to read.**
3. Ladd, Palmer. *Structure Determination by X-ray Crystallography*. **Easy to read.**
4. Rhodes. *Crystallography Made Crystal Clear*. **Very basic.**
5. McPherson. *Crystallization of Biological Macromolecules*. **Crystallization only.**

Grading

First half

4 homework assignments @ 25 pts each
1 exam (take-home, closed book) @ 150 pts

Second half

3 assignments @ 25 pts each
3 homework assignments
1 exam (take-home, closed book) @ 150 pts

Total possible points for course: **475**.

ADA statement

Any student with a documented disability needing academic adjustments or accommodations is requested to speak with me during the first two weeks of class. All discussions will remain confidential. Students with disabilities should also contact Disability Support Services in the Ley Student Center.