NOC:Principles and Applications of NMR Spectroscopy - Video course

COURSE OUTLINE

The objective of the course is to teach the basic aspects of nuclear magnetic resonance (NMR) spectroscopy, which is an important analytical tool in chemical and pharmaceutial industry for structural characterization of molecules.

The topics to be covered will include one-dimensional NMR, Chemical shifts, J-coupling, Interpretation of 1D NMR spectrum, Basics of 2D NMR, Different 2D NMR experiments and their application/interpretation, Application of 2D NMR for assignment of molecules and peptides.

COURSE DETAIL

Week	Topic/s
1	Introduction to NMR spectroscopy
2	Chemical shifts and J-coupling
3	One-dimensional proton NMR
4	One dimensional NMR of X-nuclei (13C, 15N, 31P and 19F)
5	Homonuclear 2D NMR
6	Heteronucler 2D NMR
7	Structure determination of molecules

NP-TEL

NPTEL

http://nptel.ac.in

Chemistry and Biochemistry

Pre-requisites:

Should have studied Chemistry at undergraduate level and Mathematics at least up to 12th Standard

Coordinators:

Prof. Hanudatta S. Atreya
Department of NMR Research CentreIISc Bangalore

8	Advanced topics (Solvent suppression, Drug Discovery, DOSY)

References:

1. Basic One and Two Dimensional NMR: by Horst Fiebrolin?
2. NMR Spectroscopy Explained: by Neil Jacobsen
3. Understanding NMR spectroscopy: by James Keeler
4. Introduction to Spectroscopy: by Pavia et al.