

NOC:Complex Network : Theory and Application - Video course

COURSE OUTLINE

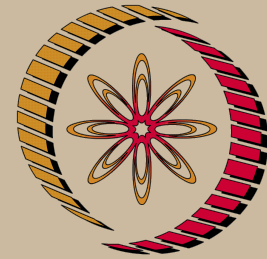
Study of the models and behaviors of networked systems. Empirical studies of social, biological, technological and information networks. Exploring the concepts of small world effect, degree distribution, clustering, network correlations, node centrality, and community structure of networks. This will be followed by detailed case study of citation networks. Types of network: Social networks, Information networks, Technological networks, Biological networks, Citation Networks. Properties of network: Small world effect, transitivity and clustering, degree distribution, scale free networks, maximum degree; mixing patterns; degree correlations; community structures; node centrality.

COURSE DETAIL

Sl. No	Topics
1.	Introduction, Network Analysis.
2.	Properties of Social Networks.
3.	Community Analysis.
4.	Case Study: Citation Networks.

References:

Networks: An Introduction, Oxford University Press, Oxford, 2010.
 Evolution of Networks, Oxford University Press, Oxford, 2003.
 The structure and function of complex networks, SIAM Review 45, 167-256, 2003
 Statistical mechanics of complex networks, Rev. Mod. Phys., 74(1), 2002.



NP-TEL

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