

## Graph Theory - Video course

### COURSE OUTLINE

In computer science, graph theory is used extensively. The intension of this course is to introduce the subject of graph theory to computer science students in a thorough way.

While the course will cover all elementary concepts such as coloring, covering, hamiltonicity, planarity, connectivity and so on, it will also introduce the students to some advanced concepts.

### COURSE DETAIL

Sl.No.	Topics	No.of Hours
1	Vertex Cover	1
2	Matchings	3
3	Pathcover	1
4	Connectivity	3
5	Hamiltonicity	3
6	Vertex Coloring	4
7	Edge Coloring	3
8	Other Coloring Problems	2
9	Perfect graphs	2
10	Planar graphs	3
11	Other special classes of graphs	2
12	Network flow	3
13	Introduction to minor theory	3



NP-TEL

# NPTEL

<http://nptel.iitm.ac.in>

## Computer Science and Engineering

**Coordinators:**

**Dr. L. Sunil Chandran**  
Department of Computer Science and  
Automation IISc Bangalore

14	Probabilistic Methods: Basics	3
15	Markov, Chebishey Inequalities	1
16	Lovasz Local Lemma	2
17	Random graph	1
	<b>Total</b>	40

**References:**

1. R. Diestel, "Graph Theory", Springer-Verlag, 2nd edition, 2000.
2. N. Alon and J. Spenser, "Probabilistic Methods", John Wiley and Sons, 2nd edition, 2000.