

## NPTEL Video Lecture Topic List - Created by LinuXpert Systems, Chennai

NPTEL Video Course - Mechanical Engineering - NOC:Surrogates and Approximations in Engineering Design

Subject Co-ordinator - Prof. Palaniappaan Ramu

Co-ordinating Institute - IIT - Madras

Sub-Titles - Available / Unavailable | MP3 Audio Lectures - Available / Unavailable

- Lecture 1 - Overview and Motivation of Course
- Lecture 2 - Basic Optimization Problem Formulation
- Lecture 3 - Problem Formulation Example
- Lecture 4 - Calculus related to Optimization
- Lecture 5 - The big picture - Overview
- Lecture 6 - Introduction to DOE - 1
- Lecture 7 - Introduction to DOE - 2
- Lecture 8 - Types of DOE - 1
- Lecture 9 - Types of DOE - 2 and some examples
- Lecture 10 - Introduction to surrogate modeling
- Lecture 11 - Types of surrogate - Polynomial models
- Lecture 12 - Radial basis function - 1
- Lecture 13 - Radial basis function - 2
- Lecture 14 - Kriging - 1
- Lecture 15 - Kriging - 2
- Lecture 16 - Metamodels for Safe and Efficient Automotive Structures
- Lecture 17 - Exploration and Exploitation in Surrogates
- Lecture 18 - Errors Based Exploration
- Lecture 19 - Ensemble of Surrogates

---

Get Digi-MAT (Digital Media Access Terminal) For High-Speed Video Streaming of NPTEL and Educational Video Courses in LAN

[www.digimat.in](http://www.digimat.in)