NPTEL : NOC:Phase Field Modelling: The Materials Science, Mathematics and Computational Aspects (Metallurgy and Material Science)

Co-ordinators : Dr. M.P. Gururajan

NPTEL : NOC:Dealing with Materials Data: Collection, Analysis and Interpretation (Metallurgy and Material Science)

Co-ordinators : Dr. M.P. Gururajan

Lecture 65 - From data to underlying distribution

Lecture 66 - Bootstrap method

Lecture 67 - Summary:Data processing

Lecture 68 - Hypothesis Testing - I

Lecture 69 - Hypothesis Testing - II

Lecture 70 - Hypothesis Testing - III

Lecture 71 - Hypothesis Testing - IV

Lecture 72 - Hypothesis Testing - V

Lecture 73 - Hypothesis Testing - VI

Lecture 74 - Graphical handling of data

Lecture 75 - Fitting and graphical handling of data: Introduction

Lecture 76 - Data transformable to linear

Lecture 77 - Data of known functional form

Lecture 78 - Calibration,Fitting, Hypotheses testing

Lecture 79 - Analysis of variance

Lecture 80 - Summary:Fittng and graphical handling of data

Lecture 81 - Regression Analysis - I

Lecture 82 - Regression Analysis - II

Lecture 83 - Regression Analysis - III

Lecture 84 - Regression Analysis - IV

Lecture 85 - Analysis of Variance - I

Lecture 86 - Analysis of Variance - II

Lecture 87 - Design of Experiment - I

Lecture 88 - Design of Experiment - II

Lecture 89 - Design of Experiment - III

Lecture 90 - Design of Experiment - IV

Lecture 91 - Summary of the course

Lecture 92 - Case studies: Introduction

Lecture 93 - Case study 1: Data smoothing - I

Lecture 94 - Case study 1: Data smoothing - II

Lecture 95 - Case study 2: Error analysis

Lecture 96 - Case study 3: Calibration

Lecture 97 - Case study 4: Design of experiment

NPTEL : NOC:Aqueous Corrosion and its Control (Metallurgy and Material Science)

Co-ordinators : Prof. V. S. Raja

NPTEL : NOC:Cathodic Protection Engineering (Metallurgy and Material Science)

Co-ordinators : Prof. V.S. Raja

NPTEL : NOC:Introduction to Materials Science and Engineering (Metallurgy and Material Science)

Co-ordinators : Prof. Rajesh Prasad

NPTEL : NOC:Crystals, Symmetry and Tensors (Metallurgy and Material Science)

Co-ordinators : Prof. Rajesh Prasad

Lecture 32 (10b)

Lecture 33 (11a)

Lecture 34 (11b)

Lecture 35 (11c)

Lecture 36 (11d)

Lecture 37 (12a)

Lecture 38 (12b)

Lecture 39 (13a)

Lecture 40 (13b)

Lecture 41 (14a)

Lecture 42 (14b)

Lecture 43 (15a)

Lecture 44 (15b)

Lecture 45 (15c)

Lecture 46 (16a)

Lecture 47 (16b)

Lecture 48 (17)

Lecture 49 (18a)

Lecture 50 (18b)

Lecture 51 (18c)

Lecture 52 (18d)

Lecture 53 (19a)

Lecture 54 (19b)

Lecture 55 (19c)

Lecture 56 (19d)

Lecture 57 (20a)

Lecture 58 (20b)

Lecture 59 (20c)

Lecture 60 (20d)

Lecture 61 (20e)

Lecture 62 (21a)

Lecture 63 (21b)

Lecture 64 (21c)

NPTEL : NOC:Corrosion-Environmental Degradation-Surface Engineering (Metallurgy and Material Science)

Co-ordinators : Prof. (Hag) Harish Hirani

NPTEL : NOC:Introduction to Crystal Elasticity and Crystal Plasticity (Metallurgy and Material Science)

Co-ordinators : Prof. Swarup bag

NPTEL : Advanced Characterization Techniques (Metallurgy and Material Science)

Co-ordinators : Dr. Krishanu Biswas, Prof.N.P.Gurao

Lecture 32 - Advanced Characterization Techniques

Lecture 33 - Advanced Characterization Techniques

NPTEL : Electroceramics (Metallurgy and Material Science)

Co-ordinators : Dr. Ashish Garg

NPTEL : Fuels Refractory and Furnaces (Metallurgy and Material Science)

Co-ordinators : Prof. Satish Ch. Koria

NPTEL : Introduction to Biomaterials (Metallurgy and Material Science)

Co-ordinators : Dr. Kantesh Balani, Dr. Birkamjit Basu

NPTEL : Materials and Energy balance in Metallurgical Processes (Metallurgy and Material Science)

Co-ordinators : Prof. Satish Ch. Koria

NPTEL : Optoelectronic Materials and Devices (Metallurgy and Material Science)

Co-ordinators : Prof. Deepak Gupta, Prof. Monica Katiyar

NPTEL : Steel Making (Metallurgy and Material Science)

Co-ordinators : Prof. Satish Ch. Koria, Prof. Dipak Mazumdar

NPTEL : Structure of Materials (Metallurgy and Material Science)

Co-ordinators : Dr. Anandh Subramaniam

NPTEL : Environmental Degradation of Materials (Metallurgy and Material Science)

Co-ordinators : Dr. Kallol Mondal

NPTEL : NOC:Phase Diagrams in Materials Science and Engineering (Metallurgy and Material Science)

Co-ordinators : Dr. Krishanu Biswas

NPTEL : NOC:Fundamentals of Material Processing - I (Metallurgy and Material Science)

Co-ordinators : Prof. Shashank Shekhar

NPTEL : NOC:Heat Treatment and Surface Hardening - I (Metallurgy and Material Science)

Co-ordinators : Dr. Kallol Mondal, Prof. Sandeep Sangal

NPTEL : NOC:Fundamentals of Material Processing - Part 2 (Metallurgy and Material Science)

Co-ordinators : Prof. Shashank Shekhar, Prof. Jitesh J Thakkar

NPTEL : NOC:Nature and Properties of Materials - An Introductory Course (Metallurgy and Material Science)

Co-ordinators : Dr. Ashish Garg

NPTEL : NOC:Defects in Crystalline Solids - Part I (Metallurgy and Material Science)

Co-ordinators : Prof. Shashank Shekhar

NPTEL : NOC:Corrosion - Part I (Metallurgy and Material Science)

Co-ordinators : Dr. Kallol Mondal

NPTEL : NOC:Solar Photovoltaics: Principles, Technologies and Material (Metallurgy and Material Science)

Co-ordinators : Dr. Ashish Garg

NPTEL : NOC:Defects in Crystalline Solids - Part II (Metallurgy and Material Science)

Co-ordinators : Prof. Shashank Shekhar

NPTEL : NOC:Corrosion - Part II (Metallurgy and Material Science)

Co-ordinators : Dr. Kallol Mondal

NPTEL : NOC:Fundamentals and Applications of Dielectric Ceramics (Metallurgy and Material Science)

Co-ordinators : Dr. Ashish Garg

NPTEL : NOC:Properties of Materials (Nature and Properties of Materials-III) (Metallurgy and Material Science)

Co-ordinators : Dr. Ashish Garg

NPTEL : NOC:Diffusion in Multicomponent Solids (Metallurgy and Material Science)

Co-ordinators : Prof. Kaustubh Kulkarni

NPTEL : NOC:Corrosion Failures and Analysis (Metallurgy and Material Science)

Co-ordinators : Prof. Kallol Mondal

NPTEL : NOC:Nanomaterials and their Properties (Metallurgy and Material Science)

Co-ordinators : Prof. Krishanu Biswas

NPTEL : NOC:Mechanical Behaviour of Materials - Part I (Metallurgy and Material Science)

Co-ordinators : Prof. Shashank Shekhar, Prof. Sudhanshu Shekhar Singh

NPTEL : NOC:Mechanical Behaviour of Materials - Part II (Metallurgy and Material Science)

Co-ordinators : Prof. Sudhanshu Shekhar Singh, Prof. Shashank Shekhar

NPTEL : NOC:Electronic Properties of the Materials: Computational Approach (Metallurgy and Material Science)

Co-ordinators : Prof. Somnath Bhowmick

NPTEL : NOC:Corrosion Protection Methods (Metallurgy and Material Science)

Co-ordinators : Prof. Kallol Mondal

NPTEL : NOC:Phase Diagrams in Single Component and Binary Systems in Bengali (Metallurgy and Material Science)

Co-ordinators : Prof. Kallol Mondal

NPTEL : NOC:Artificial Intelligence and Machine Learning in Materials Engineering (Metallurgy and Material Science)

Co-ordinators : Prof. Krishanu Biswas

Lecture 32 - Part 2 - Machine Learning Algorithms - IV

Lecture 33 - Part 1 - Machine Learning Algorithms - V

Lecture 34 - Part 2 - Machine Learning Algorithms - VI

Lecture 35 - Part 1 - Machine Learning Algorithms - VII

Lecture 36 - Part 2 - Machine Learning Algorithms - VIII

Lecture 37 - Part 1 - Machine Learning Algorithms - IX

Lecture 38 - Part 2 - Machine Learning Algorithms - X

Lecture 39 - Part 1 - Machine Learning Algorithms - XI

Lecture 40 - Part 2 - Machine Learning Algorithms - XII

Lecture 41 - Part 1 - Machine Learning Algorithms - XIII

Lecture 42 - Part 2 - Machine Learning Algorithms - XIV

Lecture 43 - Part 1 - Machine Learning Algorithms - XV

Lecture 44 - Part 2 - Machine Learning Algorithms - XVI

Lecture 45 - Part 1 - Machine Learning Algorithms - XVII

Lecture 46 - Part 2 - Machine Learning Algorithms - XVIII

Lecture 47 - Part 1 - Deep Learning Methods - I

Lecture 48 - Part 2 - Deep Learning Methods - II

Lecture 49 - Part 1 - Deep Learning Methods - III

Lecture 50 - Part 2 - Deep Learning Methods - IV

Lecture 51 - Part 1 - Deep Learning Methods - V

Lecture 52 - Part 2 - Deep Learning Methods - VI

Lecture 53 - Part 1 - Deep Learning Methods - VII

Lecture 54 - Part 2 - Deep Learning Methods - VIII

Lecture 55 - Part 1 - Materials Design at Different Length Scale - I

Lecture 56 - Part 2 - Materials Design at Different Length Scale - II

Lecture 57 - Part 1 - Materials Design at Different Length Scale - III

Lecture 58 - Part 2 - Materials Design at Different Length Scale - IV

Lecture 59 - Part 1 - Materials Design at Different Length Scale - V

Lecture 60 - Part 2 - Materials Design at Different Length Scale - VI

Lecture 61 - Part 1 - Molecular Dynamic Simulation

Lecture 62 - Part 2 - Molecular Dynamic Simulation

Lecture 63 - Part 1 - Density Function Theory (DFT)

Lecture 64 - Part 2 - Density Function Theory (DFT)

NPTEL : NOC:Metallurgical and Electronic Waste Recycling (Metallurgy and Material Science)

Co-ordinators : Prof. Arunabh Meshram

NPTEL : NOC:Crystal Symmetry, X-Ray Diffraction and Physical Properties (Metallurgy and Material Science)

Co-ordinators : Prof. Sandeep Sangal

NPTEL : NOC:Mechanical Behavior of Materials (Hindi) (Metallurgy and Material Science)

Co-ordinators : Prof. Niraj Mohan Chawake

NPTEL : Advanced ceramics for strategic applications (Metallurgy and Material Science)

Co-ordinators : Prof. H.S. Maiti

NPTEL : Non-ferrous Extractive Metallurgy (Metallurgy and Material Science)

Co-ordinators : Prof. H.S. Ray, Mr. L. Pugazhenthy

NPTEL : Principles of Physical Metallurgy (Metallurgy and Material Science)

Co-ordinators : Prof. R.N. Ghosh

NPTEL : Processing of Semiconducting Materials (Metallurgy and Material Science)

Co-ordinators : Dr. Pallab Banerji

NPTEL : Science and Technology of Polymers (Metallurgy and Material Science)

Co-ordinators : Prof. B. Adhikari

NPTEL : Advanced Materials and Processes (Metallurgy and Material Science)

Co-ordinators : Prof. B.S. Murty

NPTEL : NOC:Principles of Polymer Synthesis (Metallurgy and Material Science)

Co-ordinators : Prof. Rajat K Das

NPTEL : NOC:Advanced Materials and Processes (Metallurgy and Material Science)

Co-ordinators : Prof. Jayanta Das

NPTEL : NOC:Surface Engineering for Corrosion and Wear Resistance Application (Metallurgy and Material Science)

Co-ordinators : Prof. Jyotsna Dutta Majumder, Prof. I. Manna

NPTEL : NOC:Ironmaking and Steelmaking (Metallurgy and Material Science)

Co-ordinators : Prof. Gour Gopal Roy

NPTEL : NOC:Non-Metallic Materials (Metallurgy and Material Science)

Co-ordinators : Prof. Subhasish Basu Majumder

NPTEL : NOC:Scanning Electron-Ion-Probe Microscopy in Materials Characterization (Metallurgy and Material Science)

Co-ordinators : Prof. Debabrata Pradhan

NPTEL : NOC:Techniques of Material Characterization (Metallurgy and Material Science)

Co-ordinators : Prof. Shibayan Roy

NPTEL : NOC:Electrochemical Energy Storage (Metallurgy and Material Science)

Co-ordinators : Prof. Subhasish Basu Majumder

NPTEL : NOC:Texture in Materials (Metallurgy and Material Science)

Co-ordinators : Prof. Somjeet Biswas

NPTEL : NOC:Bulk Material Transport and Handling Systems (Metallurgy and Material Science)

Co-ordinators : Prof. Khanindra Pathak

NPTEL : NOC:Environmental Degradation and Surface Engineering (Metallurgy and Material Science)

Co-ordinators : Prof. Indranil Manna, Prof. Jyotsna Dutta Majumdar

NPTEL : NOC:Fracture, Fatigue and Failure of Materials (Metallurgy and Material Science)

Co-ordinators : Prof. Indrani Sen

NPTEL : NOC:Mine Closure and Sustainability Planning (Metallurgy and Material Science)

Co-ordinators : Prof. Khanindra Pathak

NPTEL : NOC:Fundamentals of Composite and Cellular Materials (Metallurgy and Material Science)

Co-ordinators : Dr. Siddhartha Roy, Dr. Tapas Laha

NPTEL : NOC:Principles of Extractive Metallurgy (Metallurgy and Material Science)

Co-ordinators : Prof. Tarun Kumar Kundu

NPTEL : NOC:Clean Coal Technology (Metallurgy and Material Science)

Co-ordinators : Prof. Barun Kumar Nandi

NPTEL : Advanced Metallurgical Thermodynamics (Metallurgy and Material Science)

Co-ordinators : Prof. B.S. Murty

NPTEL : Materials Characterization (Metallurgy and Material Science)

Co-ordinators : Dr. S. Sankaran

NPTEL : Physics of Materials (Metallurgy and Material Science)

Co-ordinators : Dr. Prathap Haridoss

NPTEL : Electronic materials, devices, and fabrication (Metallurgy and Material Science)

Co-ordinators : Prof. Parasuraman S

NPTEL : NOC:Fundamentals of optical and scanning electron microscopy (Metallurgy and Material Science)

Co-ordinators : Dr. S. Sankaran

NPTEL : NOC:Fundamentals of electronic materials and devices (Metallurgy and Material Science)

Co-ordinators : Prof. Parasuraman S

NPTEL : NOC:Introduction to Reciprocal Space and its use in Solids (Metallurgy and Material Science)

Co-ordinators : Dr. Prathap Haridoss

NPTEL : NOC:Analysis and Modeling of Welding (Metallurgy and Material Science)

Co-ordinators : Dr. G. Phanikumar

NPTEL : NOC:Fundamentals of X-ray Diffraction and Transmission Electron Microscopy (Metallurgy and Material Science)

Co-ordinators : Dr. S. Sankaran

NPTEL : NOC:Theory and Practice of Non Destructive Testing (Metallurgy and Material Science)

Co-ordinators : Dr. Ranjit Bauri

NPTEL : NOC:Defects in Materials (Metallurgy and Material Science)

Co-ordinators : Prof. Sundararaman M

NPTEL : NOC:Elementary Stereology for Quantitative Metallography (Metallurgy and Material Science)

Co-ordinators : Dr. S. Sankaran

NPTEL : NOC:Welding of Advanced High Strength Steels for Automotive Applications (Metallurgy and Material Science)

Co-ordinators : Prof. Murugaiyan Amirthalingam

NPTEL : NOC:Welding Processes (Metallurgy and Material Science)

Co-ordinators : Prof. Murugaiyan Amirthalingam

NPTEL : NOC:Creep Deformation of Materials (Metallurgy and Material Science)

Co-ordinators : Prof. Srikant Gollapudi

NPTEL : NOC:Nanotechnology, Science and Applications (Metallurgy and Material Science)

Co-ordinators : Dr. Prathap Haridoss

NPTEL : NOC:Powder Metallurgy (Metallurgy and Material Science)

Co-ordinators : Dr. Ranjit Bauri

NPTEL : NOC:Carbon Materials and Manufacturing (Metallurgy and Material Science)

Co-ordinators : Prof. Swati Sharma

NPTEL : NOC:Mechanical Behavior of Materials (Metallurgy and Material Science)

Co-ordinators : Prof. S. Sankaran

NPTEL : NOC:Aluminium based Alloys and Metal Matrix Composites (Metallurgy and Material Science)

Co-ordinators : Prof. Ranjit Bauri

NPTEL : NOC:Welding Science and Technology (In Tamil) (Metallurgy and Material Science)

Co-ordinators : Prof. Murugaiyan Amirthalingam

NPTEL : NOC:Thermodynamics and Kinetics of Materials (Metallurgy and Material Science)

Co-ordinators : Prof. Saswata Bhattacharya

NPTEL : NOC:Diffusion in Solids (Metallurgy and Material Science)

Co-ordinators : Prof. Mayur Vaidya

NPTEL : NOC:Surface Engineering of Nanomaterials (Metallurgy and Material Science)

Co-ordinators : Prof. Kaushik Pal

NPTEL : NOC:Material Science and Engineering (Metallurgy and Material Science)

Co-ordinators : Dr. Vivek Pancholi

NPTEL : NOC:Structural Analysis of Nanomaterials (Metallurgy and Material Science)

Co-ordinators : Prof. Kaushik Pal

NPTEL : NOC:Thermo-Mechanical and Thermo-Chemical Processes (Metallurgy and Material Science)

Co-ordinators : Prof. S. R. Meka

NPTEL : NOC:Welding Metallurgy (Metallurgy and Material Science)

Co-ordinators : Dr. Pradeep K. Jha

NPTEL : NOC:Modeling of Tundish Steelmaking Process in Continuous Casting (Metallurgy and Material Science)

Co-ordinators : Dr. Pradeep K. Jha

NPTEL : NOC:Biomaterials for Bone Tissue Engineering Applications (Metallurgy and Material Science)

Co-ordinators : Prof. Bikramjit Basu

NPTEL : NOC:Iron Making (Metallurgy and Material Science)

Co-ordinators : Prof Govind S Gupta

NPTEL : NOC:Friction and Wear of Materials: Principles and Case Studies (Metallurgy and Material Science)

Co-ordinators : Prof. Dr. B. V. Manoj Kumar, Prof. Bikramjit Basu

NPTEL : NOC:Materials Design for Electronic, Electromechanical and Optical Functions (Metallurgy and Material Science)

Co-ordinators : Prof. Pavan Nukala

NPTEL : NOC:Advanced Manufacturing and Process Modelling (Metallurgy and Material Science)

Co-ordinators : Prof. Prosenjit Das

NPTEL : NOC:Advances in Additive Manufacturing of Materials: Current Status and Emerging Opportunities (Metallurgy and Material Science)

Co-ordinators : Prof. Bikramjit Basu