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About the Institute

Visvesvaraya National Institute of Technology, Nagpur is one of the thirty National Institutes of Technology in the country. It is an Institute of National Importance, named after Bharat Ratan Sir M. Visvesvaraya. Earlier, the Institute was known as Visvesvaraya Regional College of Engineering (VRCE). It was established in the year 1960 under the scheme sponsored by Govt. of India and Govt. of Maharashtra. The vision of institute is to contribute effectively to the national endeavor of producing quality human re-source of world class standard by developing a sustainable technical education system to meet the changing technological needs of the country incorporating relevant social concerns and to build an environment to create and propagate innovative technologies for the economic development of the nation.



About the Department

The Department of Civil Engineering is one of the finest and oldest engineering department of the Institute and stands with an immortal reputation. The department was formed along with the Institute itself and therefore is as old. The Department has highly educated and well experienced faculty members who endeavor to produce finest engineers, contributing incredibly to the nation. The alumni of the department are widespread in India and abroad, occupying high positions in their respective fields. The Department has an intake of 120 students per year under UG Course and 100 students per year under PG Courses.

High-End Workshop

on

Inferential Statistics & Regression Techniques for Data Analytics and Modelling in Research

12th – 18th Dec 2022



Organized by:

Department of Civil Engineering
Visvesvaraya National Institute of Technology
Nagpur

Funded by:

Science & Engineering Research Board (SERB)
under
'Karyashala' Abhyas Programme
Accelerate Vigyan Scheme

Objective of the Course

- ✓ To understand discrete and continuous variables and the techniques to analyze them.
- ✓ To understand and analyze probability distributions.
- ✓ To model data using various techniques like regression analysis, logistic regression, and machine learning.
- ✓ Hands-on training on R Software
- ✓ To understand and interpret the inferences of developed statistical and inferential models.

Course Outline

- ✓ This course aims to introduce students to the important aspects of data analytics.
- ✓ The course will cover data modeling and inferential analysis techniques, which could be useful for young researchers in their PG/PhD work.
- ✓ Students will be given hands-on training on analytics software
- ✓ By going through this course, students are likely to be able to conduct data analysis and develop data models independently.

Key Features

- ✓ Importance of Statistics for Data Analysis
- ✓ Statistics Fundamentals
- ✓ Probability Distributions
- ✓ Linear Regression
- ✓ Linear Regression Model Estimation using R
- ✓ Multinomial Logit Models
- ✓ Maximum Likelihood Estimation
- ✓ Poisson Regression
- ✓ Data Visualization using Tableau
- ✓ Machine learning methods for transportation data analysis
- ✓ Machine Learning Models Estimation using R

Tentative Schedule

Topics	Tentative Speakers
Statistics Fundamentals	Dr. U. Jain, VNIT Nagpur
Probability Distributions	Dr. Karthik B., VNIT Nagpur
Linear Regression: I	Dr. A. Sharma, VNIT Nagpur
Linear Regression: II	Dr. A. Sharma, VNIT Nagpur
Linear Regression Model Estimation using R	Mr. Prateek Agarwal, IISc Bangalore
Choice Modelling: Introduction	Dr. S. Saxena and Mr. S Nirmale, IISc Bangalore
Choice Modelling: Multinomial Logit Model and Maximum Likelihood Estimation	Dr. S. Saxena and Mr. S Nirmale, IISc Bangalore
Multinomial Logit Model Estimation using R	Mr. Prateek Agarwal and Mr. Sangram Nirmale, IISc Bangalore
Data Visualization using Tableau - I	Dr. Anshu Bamney, Michigan State University, USA
Data Visualization using Tableau - II	Dr. Anshu Bamney, Michigan State University, USA
Machine Learning Methods for Data Analysis	Dr. Y. Ali, Loughborough University, UK
Machine Learning Models Estimation using R	Dr. Y. Ali, Loughborough University, UK

Eligibility Criteria

The candidate should be pursuing PhD Degree in full time / part-time in any discipline.

or

The candidate should be pursuing a Master's Degree in full time / part-time in any discipline.

Registration Details

- ✓ **The course is completely free of cost for all shortlisted participants (SERB norms).**
- ✓ **Travelling expenditure of 3AC train fare will be reimbursed** to all selected candidates upon submission of train tickets by the shortest route to and from Nagpur.
- ✓ **Accommodation will be provided to all selected candidates** by VNIT during the course in the hostels on sharing basis, subject to availability.
- ✓ The participants are limited to **25 candidates only**.
- ✓ Preference shall be given to students from Tier-II / Tier-III institutes as per the norms of the Accelerate Vigyan "Karyashala" scheme.
- ✓ **Interested candidates should fill out the Google Form at the earliest:**

<https://tinyurl.com/VNIT-Workshop>



SCAN QR TO REGISTER

- ✓ **NO REGISTRATION FEE**
- ✓ **TRAVEL REIMBURSEMENT**
- ✓ **FREE ACCOMMODATION**

Important Dates

Last date for registration : 25th Nov 2022
Notification to selected participants : 28th Nov 2022

Shortlisted candidates will get complete instructions to deposit "Fully Refundable" Caution Money (₹ 1,000) and submit a No-Objection Certificate duly signed by their respective Head of the Department by 30th Nov 2022.

Course Dates (Physical Mode at VNIT Nagpur):
12th – 18th Dec 2022