

File No. 13020/1/2022-IES
Government of India
Ministry of Finance
Department of Economic Affairs
(IES Cadre)

Room No. 59, North Block,
New Delhi, Dated: 08.02.2023

OFFICE MEMORANDUM

Subject: Inviting applications for participation in the In-service training programme on “Management Development Programme on Data Analytics and Applied Machine Learning” with Indian Institute of Technology (IIT), Kharagpur to be held from 13th – 24th March 2023.

IES Cadre being the Cadre Controlling Authority of Indian Economic Service (IES) is conducting an In-service training programme on “Management Development Programme on Data Analytics and Applied Machine Learning” with Indian Institute of Technology (IIT), Kharagpur to be held from 13th – 24th March 2023.

2. The two-week Programme on **Management Development Programme on Data Analytics and Applied Machine Learning** aims to provide hands-on practical training on multiple data analytics platforms and algorithms. It aims to provide a good foundation for leveraging data analytics platforms such as Python and Power BI for data-driven policy and decision-making.

3. IES Cadre will bear the tuition fee and the cost of accommodation. However, TA/DA, as applicable to selected officers, will have to be borne by the concerned Ministry/Department/Organization where the officers are posted.

5. Batch strength for the aforementioned course is 15 officers, and the applications received from the officers would be evaluated on the basis of the relevance of the course to officers and their performance in present/past postings prior to final selection for undertaking the training. Administration/Establishment Division of the participating Ministries/ Departments/ Organizations may forward the application of interested officers **in the prescribed format (Annexure-I)** to the undersigned (Room No. 59, IES Cadre, Department of Economic Affairs, North Block, New Delhi) in physical form or via e-mail at sushma.yadav2018@gov.in latest by **25th February, 2023**.

6. This issues with approval of the Competent Authority.

Encl: Course Brochure

Sushma Yadav
08/02/2023
(Sushma Yadav)
Deputy Director (IES)
Tele: 23095219

Application Form

1. Name of the applicant (Dr./Mr./Ms.):
2. Batch/Year of entry into IES:
3. Training Programme (organized by IES Cadre) attended in the last two years (list below):
4. Last training attended by the instant institute:
5. Ministry/Department where currently working:
6. Designation:
7. Relieving Authority (Name & Designation):
8. Mailing Address:
 - (i) Office
 - (ii) E-mail
9. Telephone No.
 - (i) Office..... (iii) Mobile.....
10. Relevance of course to the Officer:

Indian Institute of Technology Kharagpur
Vinod Gupta School of Management
Proposed Management Development Programme on
Data Analytics & Applied Machine Learning
for Officers of Indian Economic Service [2 weeks In Campus Programme]
Location: Vinod Gupta School of Management (VGSOM), IIT Kharagpur
Proposed Dates: 13th- 24th March, 2023

Proposed Schedule

Week 1 Day 1	
Session 1	Introduction to Big Data Analytics
Session 2	Basic Statistics and Probability
Session 3	Basic Data Handling with Python Programing
Session 4	More Data Handling with Python Programing
Week 1 Day 2	
Session 5	Probability Distributions
Session 6	Statistical Inferences
Session 7	Hypothesis Testing – t test
Session 8	Hypothesis Testing – F test and ANOVA, Chi square test
Week 1 Day 3	
Session 9	Graphics with Python
Session 10	More Data Handling with Python Programing
Session 11	In class assignment and case study - 1
Session 12	In class assignment and case study - 1
Week 1 Day 4	
Session 13	Linear Regression
Session 14	Linear Regression
Session 15	Logistic Regression
Session 16	Logistic Regression
Week 1 Day 5	
Session 17	Data Visualization using Power BI
Session 18	Data Visualization using Power BI
Session 19	In class assignment and case study - 2
Session 20	In class assignment and case study - 2

Week 2 Day 1	
Session 21	Machine Learning Technique – kNN
Session 22	Cross Validation and Bootstrapping
Session 23	Machine Learning Technique – Artificial Neural Network
Session 24	Hands on with kNN, ANN and cross-validation
Week 2 Day 2	
Session 25	Machine Learning Technique – Decision Tree
Session 26	Machine Learning Technique – Ensemble Models
Session 27	Machine Learning Technique – Random Forest
Session 28	Hands on with Decision Tree and Random Forest
Week 2 Day 3	
Session 29	Machine Learning Technique – Boosting Methods
Session 30	Hands on with Boosting Methods
Session 31	In-class assignment and Case study 3
Session 32	In-class assignment and Case study 3
Week 2 Day 4	
Session 33	Cluster Analysis for Segmentation
Session 34	Hands on with cluster Analysis
Session 35	Forecasting Techniques
Session 36	Forecasting Techniques
Week 2 Day 5	
Session 37	Project Presentations
Session 38	Project Presentations
Session 39	Project Presentations
Session 40	Valedictory Sessions

Details

All sessions are of 1 hours and 15 mins duration.

Total duration of the program = 50 hours

We will conduct 6 quizzes (MCQ), 3 assignments and 1 capstone project

Resource Persons

Dr Sujay Bhattacharya: <http://www.iitkgp.ac.in/department/BM/faculty/bm-sujoybtc>

Dr Adway Mitra: <http://iitkgp.ac.in/department/AI/faculty/ai-adway>

Dr Parama Barai: <http://www.iitkgp.ac.in/department/BM/faculty/bm-parama>

And other eminent faculty members of IIT Kharagpur

Program Co-ordinators

Dr Parama Barai, Associate Professor, VGSOM, IIT Kharagpur

Dr Chandra Sekhar Mishra, Associate Professor, VGSOM, IIT Kharagpur