Indian Institute of Technology Bhilai

Executive MTech
IN
DATA SCIENCE & DATA ANALYTICS

Master Insights, Excel as Leaders

Discover Brilliance, Define Tomorrow - Engage with IIT Bhilai's Legacy

Indian Institute of Technology (IIT) Bhilai was established in the state of Chhattisgarh by the Ministry of Education in the year 2016.

IIT Bhilai is presently housed in its permanent campus at Kutelabhata, Bhilai, Chhattisgarh.

At IIT Bhilai, we understand the demands of the dynamic corporate landscape, and our Executive MTech programs are meticulously crafted to provide a seamless blend of academic excellence and real-world applicability. Whether you aspire to advance in your current role, switch career paths, or stay ahead of industry trends, our Executive MTech courses offer the strategic edge you need to thrive in a competitive landscape.

Program Overview

The Executive MTech in Data Science and Data Analytics is designed to provide students with a comprehensive understanding and skills in the fields of data science and analytics. The curriculum of Executive MTech in Data Science and Analytics focuses on teaching students to harness the power of data, employ analytics techniques, and apply these in real-world settings. Students will gain expertise in data handling, analysis, interpretation, and decision-making support, crucial for today's data-driven world.

Who Can Apply?

- Min 2 years of Experience within preceding 5 Years
- Should have B.Tech/ BE/ M.Tech/ MSc (In Relevant Field- 4 Semester Program) / MCA (4 Semester Program) / MS Degree (min. 4 Semester Program).
- In the qualifying degree at least 55 percent marks or equivalent 5.5 CGPA/CPI must be there. In case of the candidate belonging to SC, ST, or Persons with Disability (PwD) category, this is relaxed to 50% or equivalent 5.0 CGPA/CPI. For MCA/MSC passed graduates, the percentage score of MCA/MSC would be considered. For BE/BTech Engineering graduates without PG specialization, the percentage score of the undergraduate degree would be considered. For a post graduation in the Engineering field of study, PG score qualification can be considered.
- Selection process will be scheduled post counseling & application process, depending on the number of eligible applications as per seat availability for the program. This entire process will be online.

Who Is This Program For?

- Professionals who are already working in technology-related fields, including IT professionals, software engineers, and data science experts, this program provides an opportunity to deepen their expertise.
- Entrepreneurs, innovators, tech enthusiasts & engineers eager to master the field of Data Science and Data Analytics.
- Individuals passionate about this field and wants to stay ahead in the digital age.
- Engineers and software developers seeking a deep understanding of Data Science and Analytics will find this program invaluable for honing their skills.

PROGRAM OBJECTIVES

To provide an understanding of fundamental statistical concepts and their application in data analysis.

To develop skills in handling and analyzing large datasets using Big Data tools and platforms.

To learn about various Big Data processing techniques and their applications in real-world scenarios.

To explore various data mining algorithms and their applications in solving real-world problems.

Equip students with an in-depth understanding of advanced statistical modeling techniques and their applications.

Develop proficiency in interpreting complex data sets using modern statistical methods.

Enhance skills in selecting and applying appropriate statistical models for various types of data and research questions.

Foster critical thinking and analytical skills for evaluating model performance and validity.

PROGRAM HIGHLIGHTS

➤➤ An esteemed certification, campus immersion & alumni status from IIT Bhilai

➤➤ Learn through Virtual Instructor-Led Training (VILT)

➤➤ Explore top-notch learning with industry experts

PROGRAM STRUCTURE

Sem	Course Code	Course Name	L-T-P-C	Credits	Course Category
I	DSD501	Foundations of Data Science	3-0-0-3	3	Core
I	DSD502	Statistical Methods for Data Analysis	3-0-0-3	3	Core
I	DSD503	Big Data Technologies	2-1-0-3	3	Core
I	DSD504	Introduction to Machine Learning	2-0-1-3	3	Core
II	DSDXXX	Elective in Advanced Analytics	3-0-0-3	3	Elective
II	DSDXXX	Elective in Machine Learning	3-0-0-3	3	Elective
II	DSDXXX	Other DSD Electives	3-0-0-3	3	Elective
II	DSD701	Capstone Project	0-0-8-4	4	Project (P)
III	DSDXXX	Elective in Advanced Analytics	3-0-0-3	3	Elective
III	DSDXXX	Minor Project	0-0-4-2	2	Project
III	DSDXXX	Electives - (any group)	4-0-0-4	4	Elective
IV	DSDXXX	Major Project	0-0-12-6	6	Project
IV		Campus immersion program / Elective	0-1-6-4	4	
				44	

Category	Course Code	Elective Courses	L-T-P-C	Credits
Advanced Analytics Electives	DSDXXX	Predictive Analytics	3-0-0-3	3
	DSDXXX	Text Mining and Natural Language Processing	3-0-0-3	3
	DSDXXX	Time Series Analysis and Forecasting	3-0-0-3	3
	DSDXXX	Advanced Statistical Modeling	4-0-0-4	4
	DSDXXX	Big Data Analytics in the Cloud	4-0-0-4	4
	DSDXXX	Applied Causal Inference	4-0-0-4	4
Machine Learning Electives	DSDXXX	Deep Learning and Neural Networks	3-0-0-3	3
	DSDXXX	Reinforcement Learning	4-0-0-4	4
	DSDXXX	Supervised and Unsupervised Learning Techniques	3-0-0-3	3
	DSDXXX	Machine Learning at Scale	4-0-0-4	4
	DSDXXX	Generative AI Models	4-0-0-4	4
	DSDXXX	Probabilistic Machine Learning	4-0-0-4	4
Other DSD Electives	DSDXXX	Data Governance and Compliance	3-0-0-3	3
	DSDXXX	Advanced Topics in Data Science	4-0-0-4	4
	DSDXXX	Data-Driven Decision Making	3-0-0-3	3
	DSDXXX	Simulation and Modeling for Big Data	4-0-0-4	4
	DSDXXX	Computational Social Science	4-0-0-4	4
	DSDXXX	Advanced Data Visualization Techniques	4-0-0-4	4

Program Elective and Open Elective courses, along with their credits, are tentative and subject to change

CORE LEARNING OUTCOMES

- Ability to apply data science techniques to extract meaningful information from data.

- Development of a critical approach to evaluating data sources, data quality, and analytical methods.

- Ability to apply statistical concepts and techniques for data analysis.

- Capability to select and apply the correct statistical methods for different types of data.

- Ability to identify and utilize appropriate Big Data tools for different types of data and analysis tasks.

- Awareness of ethical, security, and privacy concerns in Big Data and the ability to address them in professional practices.

- Proficiency in applying predictive analytics techniques to solve real-world problems. Enhanced skills in using software tools for data analysis, model building, and validation.

- Ability to select and implement appropriate predictive models for various types of data and prediction tasks.

- Improved skills in presenting and communicating data findings to inform strategic decisions.

- Ability to apply analytical techniques to solve business problems.

PROGRAM ADMISSION JOURNEY

STEP 1:
Fill up an online application form, upload the required documents and submit application

STEP 2:
Make the application payment

STEP 3:
Shortlisting based on work, and education profile

STEP 4:
If shortlisted, you will receive an offer letter from IIT Bhilai

STEP 5:
Pay admission confirmation fee within 7 days of receiving the offer letter

Selection process will be scheduled post-counseling & application process, depending on the number of eligible applications as per seat availability for the program. This entire process will be online.

Note: The application fee once paid is not refundable. IIT Bhilai reserves the right to conduct the admissions process. By submitting the application, the students agree that any decision regarding Admissions from IIT Bhilai will be final and binding.

Fee Structure

Executive MTech in Data Science and Data Analytics

Application Fee (Non-Refundable)	₹ 5,000/-			
Fees	Instalment 1	Instalment 2	Instalment 3	Instalment 4
	₹ 91,250/-	₹ 91,250/-	₹ 91,250/-	₹ 91,250/-
Total Fees	₹ 3,70,000/-			

Optional Fees

Head	Sem 1	Sem 2	Sem 3	Sem 4	Total
Optional Campus Immersion Fee	₹ 0/-	₹ 10,000/-	₹ 0/-	₹ 10,000/-	₹ 20,000/-
Optional Institute Alumni Fee	₹ 0/-	₹ 0/-	₹ 0/-	₹ 6,000/-	₹ 6,000/-

Cancellation & Fee Refund Policy:

» **Application Fee:** Non-refundable.

» **Course Fee Refund:**

A refund of 90% of the paid course fee will be issued if a request is raised before the Batch commencement date.

No refund will be provided on or after the batch commencement date.

Tools and Technologies

Programming Languages and Environments

python SOFTWARE FOUNDATION

Key data science language for tasks ranging from data manipulation to machine learning

R

Statistical analysis & visualization

jupyter

Interactive coding environment that supports other code languages

Data Analysis and Visualization Tools

tableau   **Power BI**

Data visualization and business intelligence

matplotlib   **seaborn**

Creating static, interactive, & animated visualizations

Big Data Technologies

APACHE hadoop   **APACHE Spark**   **databricks**

Handle large datasets & perform complex data processing

Integrated environment for big data processing

Database Management

Essential for querying &
managing data - relational databases

Or similar NoSQL Databases
for unstructured or
semi-structured data

Machine Learning and Advanced Analytics

Implementing
ML algorithms

Deep learning
application

Advanced
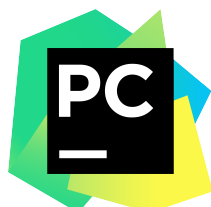statistical analysis

Cloud Computing Platforms

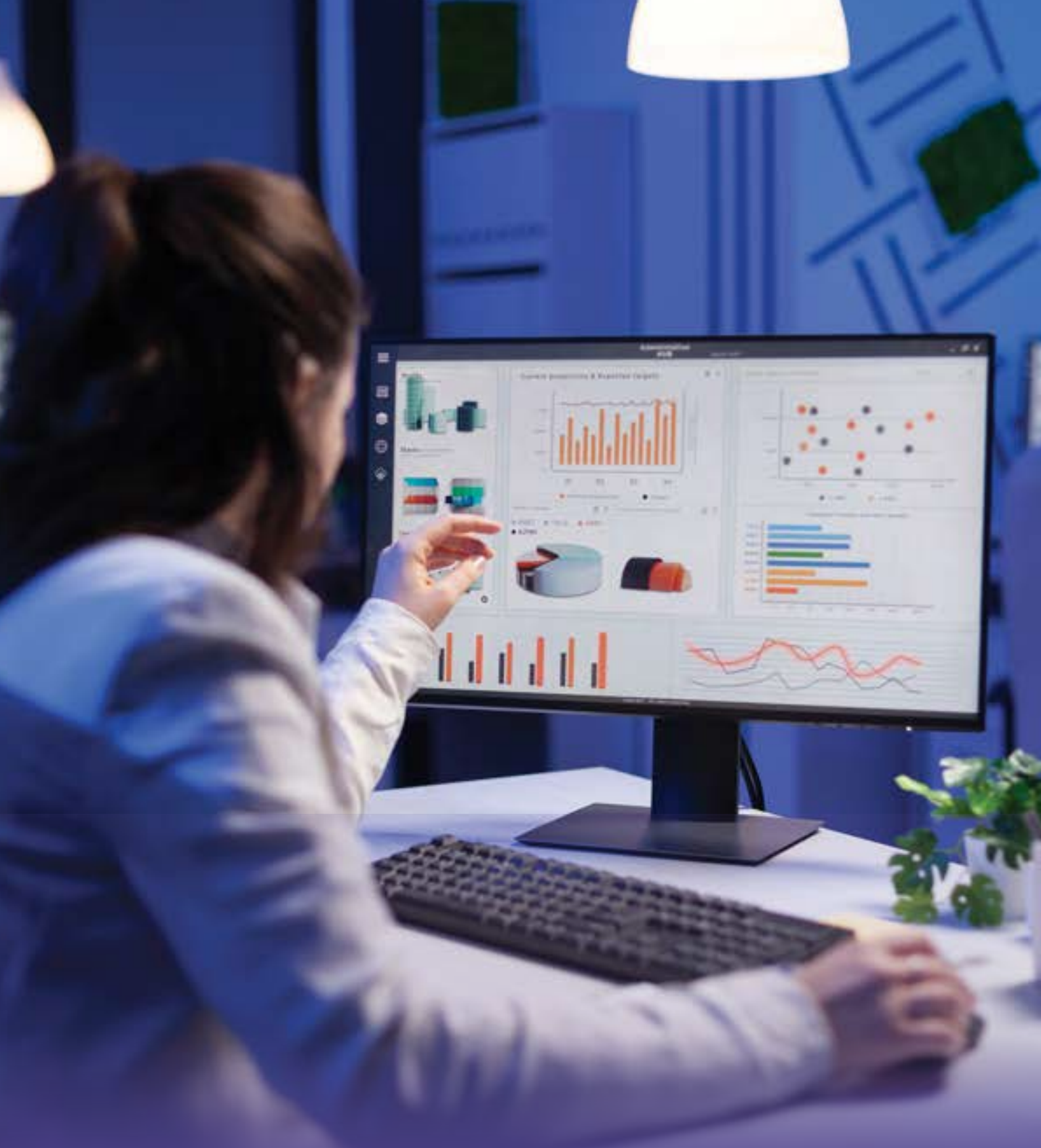

For cloud-based data storage,
processing & analytics

Cloud service for
ML & data analysis

Text Editors and IDEs

For code development
& debugging

Get In Touch With Us

For registration and any other information please get in touch with us at admission.iitbhilai@digivarsity.com

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