INDIAN INSTITUTE OF TECHNOLOGY
PATNA

PG CERTIFICATION
Business data analytics

Comprehensive crash course in analytics for business

6 Months I Online I Immersive Sessions I Get certified from an IIT

LEARN FROM THE BEST MINDS IN THE COUNTRY - GET THE IIT PATNA ADVANTAGE

Established in 2008, IIT Patna is the newest and fastest-growing premier institution in India.

IIT Patna operates ten departments - Computer Science & Engineering, Electrical Engineering, Mechanical Engineering, Chemical & Biochemical Engineering, Civil & Environmental Engineering, Materials Science & Engineering, Chemistry, Physics, Mathematics, and Humanities & Social Science departments.

The institute has developed modern facilities that are fully equipped with state-of-the-art facilities (equipment software and machines) that are routinely used to train and educate students.

The institution has published in high-quality and peer-reviewed national and international journals. The faculty members of IIT Patna have a wide range of academic and research experience. They have been trained in the top-ranked institutes within the country and abroad.

IIT PATNA CREDENTIALS	
Ranked 2nd	In Emerging Government Colleges in a Best College Ranking 2022 by India Today-MDRA
Ranked 9th	For placement records
Ranked 10th	Best Government Engineering College in the performance category overall
2500+ Alumni	Serving national and international institutions at leadership positions
100+	M.Tech Students
10+	Operating Departments
100+	Faculty Members

PROGRAM OVERVIEW

In today's age, businesses across industries are generating and accumulating vast amounts of data. The ability to collect, process, and analyze this data has become essential for businesses to gain insights, make informed decisions, and stay ahead of the competition. According to a report by IBM, the global business analytics market is expected to reach $383.2 billion by 2027. This highlights the growing demand for data analytics professionals and the importance of staying relevant in this field. This postgraduate certification program from IIT Patna is a comprehensive program on Business Data Analytics aimed at equipping individuals with the skills to analyze and interpret data effectively and make data-driven decisions in real-world business scenarios, making it an essential program for anyone interested in pursuing a career in data analytics or looking to enhance their existing skills.

WHO CAN APPLY? - COURSE ELIGIBILITY

The program is designed for graduates in any discipline with a minimum 1 year of work experience.

WHO IS THIS PROGRAM FOR?

- Professionals who are looking to transition to a career in data analytics.
- Business analysts who want to develop their data analytics skills.
- Managers who want to gain a better understanding of data analytics to make data-driven decisions.
- IT professionals who want to enhance their data analytics skills and knowledge.
- Entrepreneurs who want to leverage data analytics for their business growth.
- Students (with at least 1 year of work experience) who want to pursue a career in data analytics or related fields.

COURSE STRUCTURE

Program Duration – 6 months | Model of delivery - Virtual instructor-led training (VILT)

Components	Learning Effort (Hours)
Webinars	65
Case Studies	10
Total	75

Note: The list mentioned above is indicative and is subject to change at the discretion of IIT Patna.

HANDS-ON EXPERIENCE THROUGH

- Case Studies
- Scenario Simulation
- Deep Level Analytics

FUNCTIONAL TOOLS TO LEARN

Excel · python™ · Power BI
hadoop · aws · +ableau
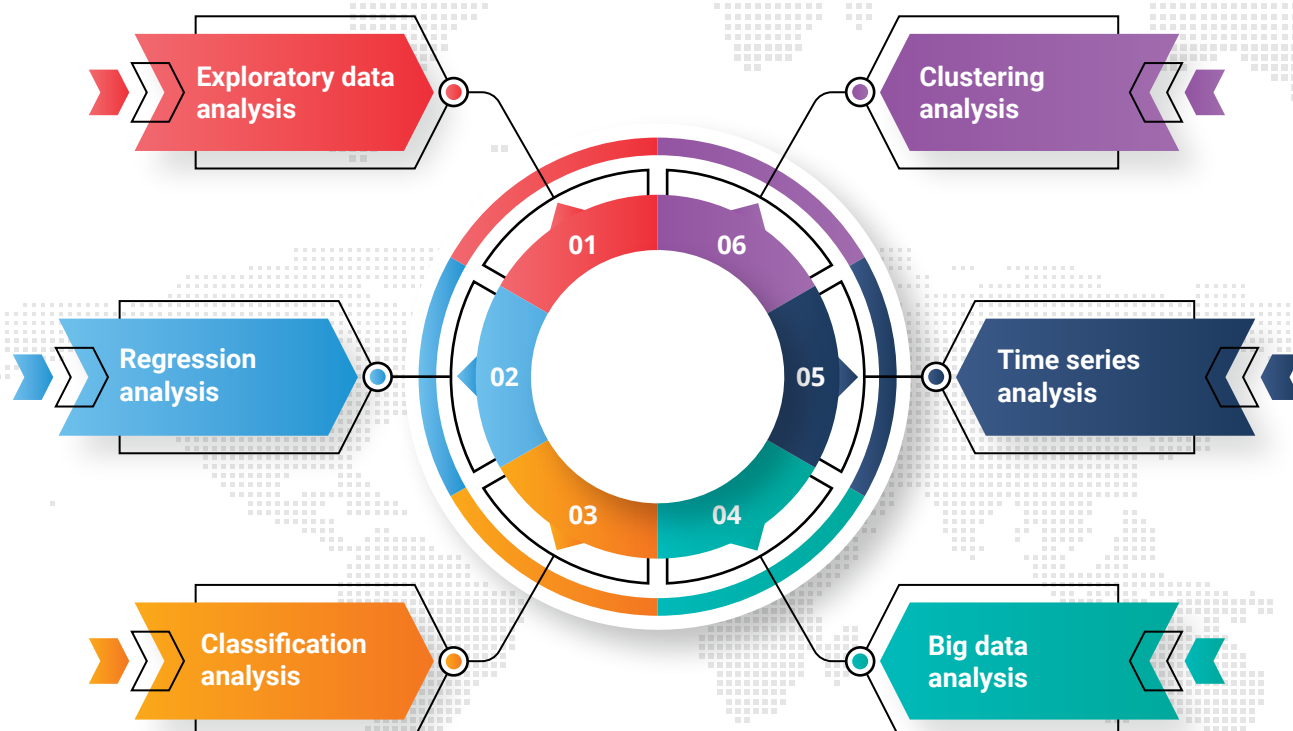
Note: The list mentioned above is an indicative list of tools and is subject to change at the discretion of IIT Patna.

PROFFICIENCY GAINED THROUGH THE PROGRAM

- 01 Exploratory data analysis
- 02 Regression analysis
- 03 Classification analysis
- 04 Big data analysis
- 05 Time series analysis
- 06 Clustering analysis

PROGRAM OBJECTIVES

UNDERSTAND

Business data analytics, fundamental statistical concepts and its applications in real-world scenarios.

LEARN

How to collect, clean, and pre-process data for analysis.

ACQUIRE

Skills in data visualization techniques to effectively communicate insights to stakeholders.

GAIN

Knowledge on techniques for exploratory data analysis, clustering, correlation, association, time series analysis and forecasting methods.

STUDY

About big data and tools used for data analysis in big data environments

ANALYSE

Case studies and industry examples to apply data analytics techniques in real-world scenarios.

THE LEARNING CURRICULUM

Sr. No.	Module	Sub Topics	Hours
1	Introduction to Business data analytics	• Introduction to business data analytics • Overview of data types and sources • Basic statistics and probability concepts • Introduction to data visualization	5
2	Data management and pre-processing	• Data cleaning and quality assessment • Data transformation and normalization • Data integration and merging • Data reduction techniques	10
3	Exploratory data analysis	• Descriptive statistics and visualization • Correlation analysis • Hypothesis testing • Association rules analysis	10
4	Regression analysis	• Linear regression • Multiple regression • Model validation and interpretation	10
5	Classification Analysis	• Logistic regression • Decision trees • Naive Bayes • Model evaluation and validation	15
6	Clustering Analysis	• K-means clustering • Hierarchical clustering • Model evaluation and interpretation	5
7	Time Series Analysis	• Time series data characteristics • Trend analysis • Seasonality analysis • Forecasting methods	5
8	Big-data Analytics	• Introduction to big data • Hadoop and MapReduce • Spark and NoSQL databases • Data mining in big data environments	5
9	Business Analytics Applications	• Real-world business applications of data analytics • Data-driven decision making • Case studies and industry examples	10

Assessment & Assignments

⯈ Assessment or assignments modules are MCQ-based, problem-based and code-based

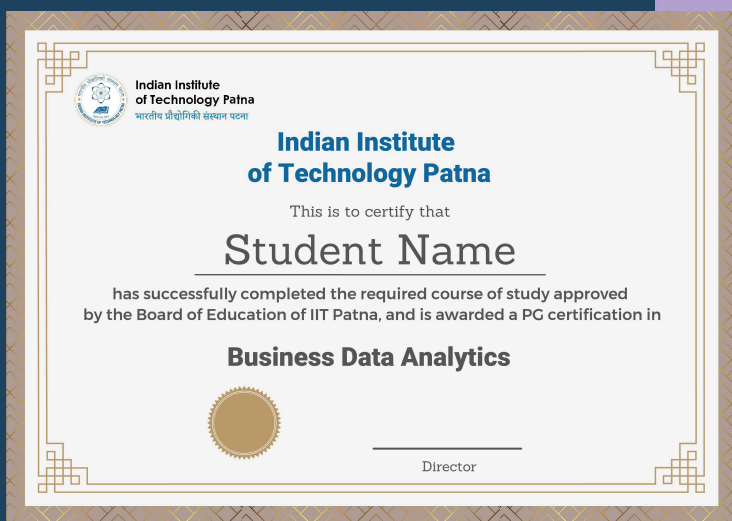⯈ Project Viva-Voce will be web-based

Final Evaluation

Final Evaluation will comprise of the following components and weights:

⯈ Final Assessment – Multiple Choice Questions **(60%)**

⯈ Project Viva-Voce **(40%)**

Upon clearing a cut-off of 50% in total, the student will be awarded the certification.

PG CERTIFICATION PROGRAM
SAMPLE CERTIFICATE

**Indian Institute
of Technology Patna**
भारतीय प्रौद्योगिकी संस्थान पटना

**Indian Institute
of Technology Patna**

This is to certify that

Student Name

has successfully completed the required course of study approved
by the Board of Education of IIT Patna, and is awarded a PG certification in

Business Data Analytics

Director

IIT Patna campus immersion and executive alumni status is an optional add-on.

AN EYE ON THE FUTURE

• The demand for Business Data Analytics professionals has been on the rise in recent years, driven by the exponential growth in data generated by businesses across industries.
• In India, the data analytics market is expected to reach $3.03 billion by 2023, according to a report by NASSCOM. This growth is driven by the increasing demand for data analytics in industries such as BFSI, retail, healthcare, and e-commerce.
• Furthermore, a report by LinkedIn identified Business Intelligence and Data Analysis as two of the top ten most in-demand skills in 2021. The report also highlighted that data analytics roles have seen a 25% increase in job openings compared to the previous year.
• These reports indicate the growing demand for Business Data Analytics professionals globally and in India, highlighting the need for skilled professionals in this field to meet the requirements of businesses in various industries.

HIRING SECTORS

Banking, Financial Services, and Insurance (BFSI)

E-commerce and retail

Healthcare and pharmaceuticals

Information technology and software development

Marketing and advertising

HIRING SECTORS

Logistics and transportation

Manufacturing and production

Telecommunications

Energy and utilities

Government and public sector

POTENTIAL JOB ROLES

JOB ROLES

- Data Analyst
- Business Analyst
- Business Intelligence Analyst
- Data engineer

- Analytics Manager
- Quantitative Analyst
- Marketing Analyst
- Financial Analyst

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 Patna

STEP 5
Pay course fee within 7 days of receiving the offer letter

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

Indian Fee

PG Certification in Business Data Analytics	1st EMI	2nd EMI
Application Fee (non refundable)	₹ 5,000	-
Fee	₹ 40,000	₹ 30,000
Optional Campus Immersion Fee (5 Days)	₹ 7,000	-
Optional Executive Alumni Status Fee	₹ 6,000	-
Total Fee : ₹ 70,000		

International Fee

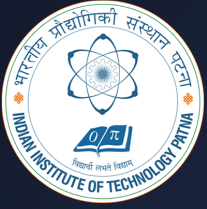| PG Certification in Business Data Analytics	1st EMI	2nd EMI
Application Fee (non refundable)	$ 150	-
Fee	$ 600	$ 600
Optional Campus Immersion Fee (5 Days)	$ 200	-
Optional Executive Alumni Status Fee	$ 100	-
Total Fee : $ 1000		

PAYMENT DETAILS FOR STUDENTS

Application fee is non-refundable and exclusive of course fees. GST @18% applicable

All students are requested to strictly adhere to the payment schedule deadlines mentioned in the above table.

IIT Patna does not charge any processing fee or service charge from the students for online payment. However, online payment gateway charges, over and above course fees need to be borne by the students, as applicable.

In case of any refund related queries, kindly refer to our refund policies.

**Indian Institute
of Technology Patna**

भारतीय प्रौद्योगिकी संस्थान पटना

Contact us

For application and any other information please
get in touch with us

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