Master Data Science with Python Tools

Data Science with Python

Certificate Course | 4 Weeks | Beginner to Intermediate

Innova
Short Term Course

Data Science with Python Powered Exploratory Data Analysis

This course equips you with essential skills in Python for data analysis. Learn to manipulate, explore, and visualize data using libraries like NumPy, pandas, seaborn, and plotly. Through hands-on projects and real-world case studies, you'll develop the confidence to derive insights and solve business problems effectively.
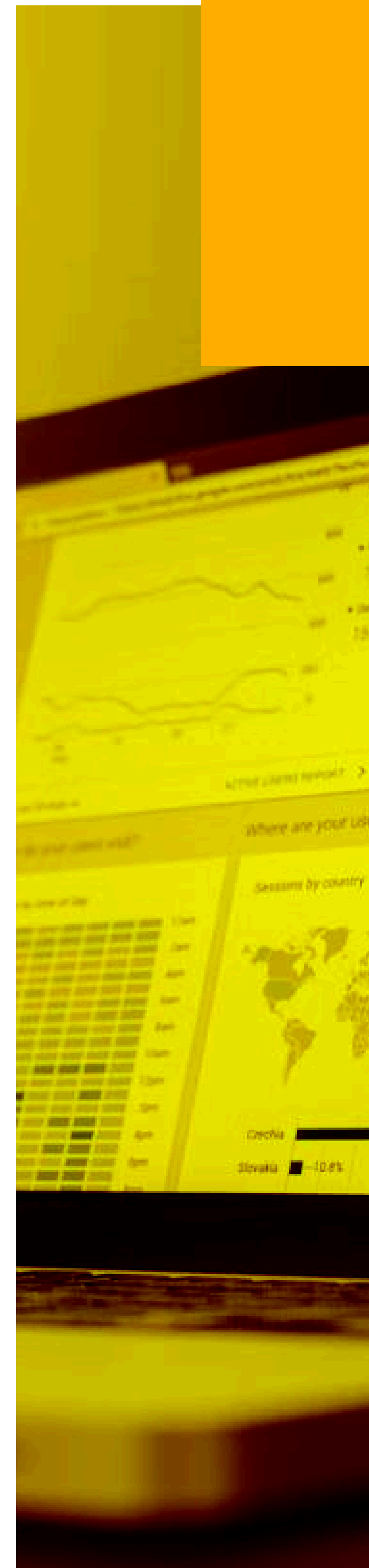
Innova
Short Term Course

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Overview

Data Science with Python Powered Exploratory Data Analysis

This 4-week course offers a comprehensive introduction to Python programming with a strong focus on data analysis. You'll learn how to work with variables, functions, data structures, and essential libraries like NumPy and pandas. The course builds foundational programming skills while guiding learners through data manipulation and preparation techniques.

As the course progresses, you'll explore powerful data visualization tools such as seaborn and plotly to create meaningful insights. The final module emphasizes exploratory data analysis techniques with practical applications. Through quizzes and a hands-on capstone project, you'll gain the ability to uncover patterns and present actionable business recommendations.

Learn how to solve business problems with data

Apply exploratory data analysis techniques to uncover insights and deliver meaningful, real-world recommendations.

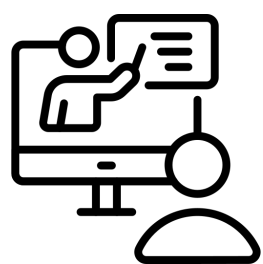### Gain hands-on experience with Python data tools

Work with popular libraries like NumPy, Pandas, and Seaborn to explore, manipulate, and visualize data effectively.
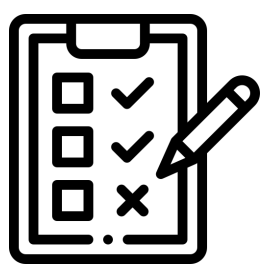
Overview

Key Highlights

Duration
4-week structured
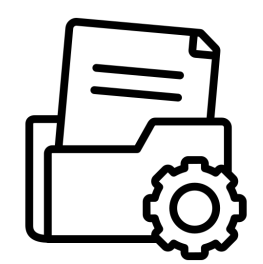learning program

Mode of Delivery
Online, self-paced
with guided support

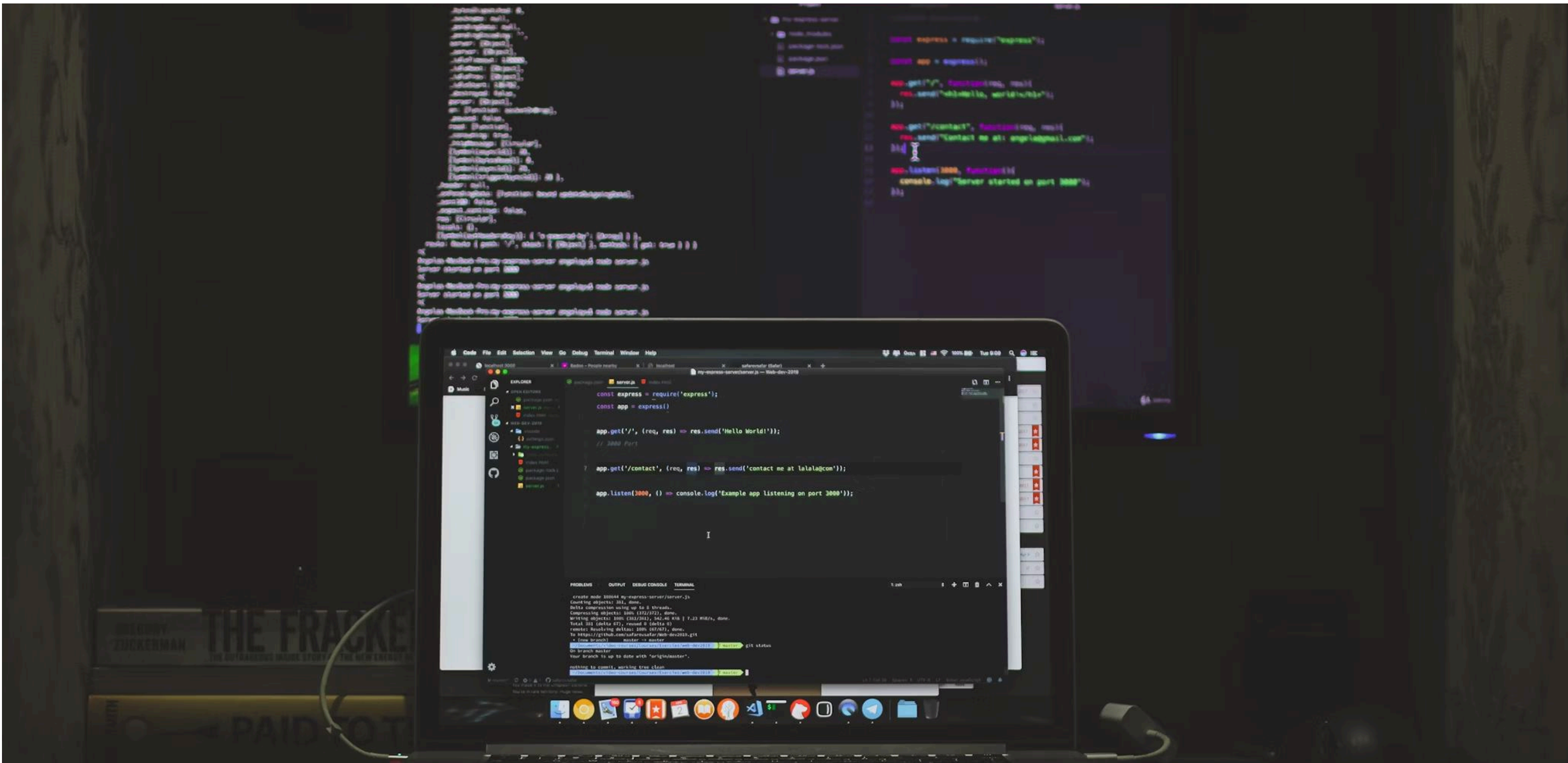### Assessment
Weekly quizzes +
Final project

Project Theme
Real-world food
delivery data analysis

Course Modules
Week 1
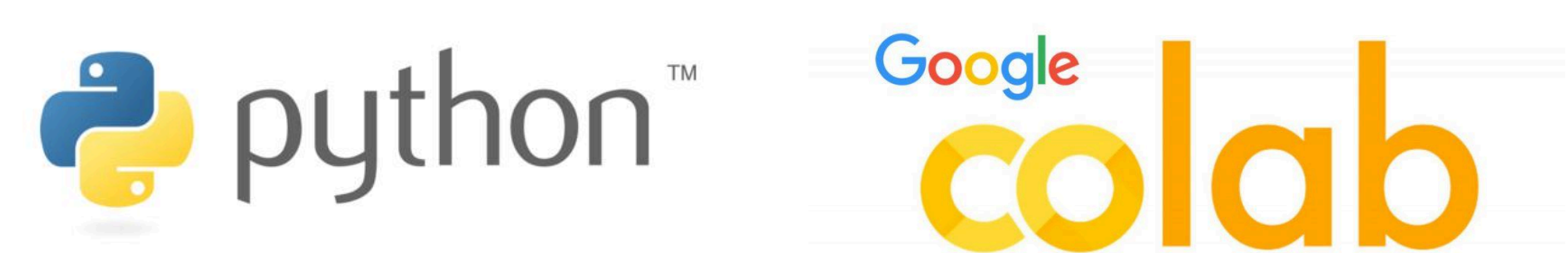
Introduction to Python

In the first week, you'll be introduced to the fundamentals of Python programming. This module lays the groundwork for data analysis by covering basic coding concepts, logical structures, and function definitions. You'll also begin working in Google Colab, a cloud-based environment ideal for writing and executing Python code efficiently.

Topics Covered

- Introduction to Google Colab
- Variables
- Data Structures
- Conditional Statements
- Looping Statements
- Functions

Tools Covered

Key Statistics

15

No. of Videos

2 Hours

Total Duration

15

Test your
Understanding Quiz

1

Weekly Graded Quiz

5

Practice Quizzes

Python for Data Science

This module introduces you to Python libraries essential for data analysis. You'll learn how to work with NumPy for numerical operations and pandas for handling structured datasets. By the end of the week, you'll be confident in loading, transforming, and managing data using these powerful tools.

Topics Covered

- NumPy Arrays and Functions

- Accessing and Modifying NumPy Arrays

- Saving and Loading NumPy Arrays

- Creating, Accessing, and Modifying Pandas Series

- Creating, Accessing, Modifying, and Combining Pandas DataFrames

- Common Pandas Functions

- Saving and Loading Datasets Using Pandas

Tools Covered

 NumPy   pandas

Key Statistics

15

No. of Videos

2 Hours

Total Duration

15

Test your
Understanding Quiz

1

Weekly Graded Quiz

5

Practice Quizzes

Python for Visualization

In week three, you'll explore Python's rich visualization capabilities. Using libraries like seaborn and plotly, you'll learn to create clear, insightful graphs and charts. This module teaches you how to represent data visually to uncover patterns, compare variables, and communicate insights more effectively.

Topics Covered

- Data Loading and Overview

- Histogram and Bar Graph

- Boxplot and Violin Plot

- Line Plot

- Scatterplot, Pairplot, and Heatmap

- Jointplot and Lmplot

- Catplot, Strip Plot, Swarm Plot

- Plotly Basics

- Customizing Plots

Tools Covered

Key Statistics

15

No. of Videos

2 Hours

Total Duration

15

Test your Understanding Quiz

1

Weekly Graded Quiz

5

Practice Quizzes

Course Modules
Week 4

Exploratory Data Analysis

The final module focuses on the core techniques of exploratory data analysis. You'll perform univariate and bivariate analysis, treat missing values and outliers, and conduct sanity checks. These techniques will help you make data-driven decisions and extract meaningful insights from raw data.

Topics Covered

- Sanity Checks

- Univariate Analysis

- Bivariate Analysis

- Missing Value Treatment

- Outlier Treatment

Key Statistics

15

No. of Videos

2 Hours

Total Duration

15

Test your
Understanding Quiz

1

Weekly Graded Quiz

5

Practice Quizzes

Capstone Project
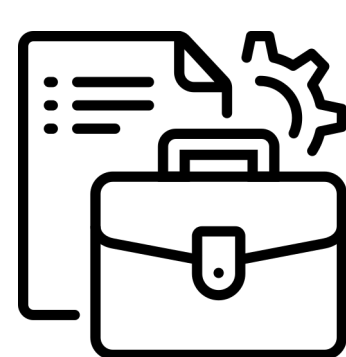
Analyze Real Food Delivery Business Data

Work on a practical project based on real-world data from a food delivery app called Foodhub. You'll take on the role of a data analyst working for a food aggregator company.

Your task is to study ordering patterns, restaurant demand, and user behavior to generate insights that improve customer satisfaction and drive smarter business decisions.

Project Theme
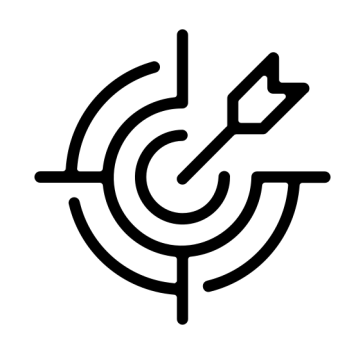Analyze order and restaurant data from a food delivery app

Business Context
Help Foodhub identify demand trends to improve customer experience

Your Objective
Perform data cleaning, visualization, and exploratory analysis

Final Outcome
Submit a report with insights and recommendations backed by data

Capstone Project

Gain confidence, clarity, and practical skills to turn data into insights and take your career to the next level.

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Your Data Journey Starts Here

This course equips you with in-demand data analysis skills using Python, empowering you to interpret, visualize, and communicate data effectively.

With real-world case studies and hands-on projects, you'll be ready to tackle complex challenges and make data-driven decisions across industries and roles.

About Innova

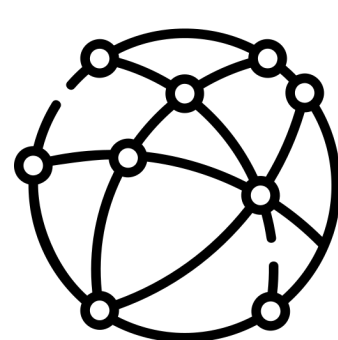# Empowering Careers Through Industry-Focused Learning

Innova Training Institute is a KHDA-approved vocational institute based in Dubai Knowledge Park. Backed by global affiliations, it delivers career-focused programs that blend academic rigor with practical skill-building.

With guaranteed internships, small-batch mentorship, and real-world projects, Innova helps learners transition confidently into the workforce. Each course is designed to ensure relevance, industry integration, and job-readiness from day one.

Dual Qualification
Academic degrees with industry-recognized certification

Global Recognition
Endorsed by Pearson, IOA, Qualifi, and Accredited by KHDA

Mentorship Model
1:3 expert ratio with personalized guidance

Career Integration
Projects, internships, and startup simulation embedded

About Innova

Learn in a world-class academic environment with modern infrastructure, collaborative spaces, and easy access to essential student amenities.

Dubai Knowledge Park Learning Hub

Study in Dubai's premier education district, home to cutting-edge classrooms, collaborative lounges, and a dynamic student community. Located in a hub of academic and corporate activity, the campus encourages innovation, peer interaction, and career-focused learning in an inspiring, multicultural environment.

Accessible, Connected, Student-Friendly Facilities

Enjoy seamless access to public transport, cafés, business centers, and well-equipped learning zones. From quiet study areas to interactive lounges, every facility is designed to support comfort, focus, and collaboration, creating the ideal atmosphere for productive and enriching learning experiences.

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At Innova, we believe in nurturing talent through immersive learning experiences, real-world projects, and a future-ready academic environment.

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