Data Science 101 —formula

Level: Beginner to Intermediate
Duration: 6 weeks (12 sessions × 40 min each ≈ 8 hours)
Audience: Students new to data science or with basic Python experience
Course Goal: Introduce core data science concepts, workflows, basic statistics, and real-world problem-solving.
Course fee:

- Self-paced: $100
- Instructor-led: $150

Learning Objectives

By the end of this course, students will be able to:

Data Science Foundations

- Understand what data science is and where it's applied.
- Identify real-world use cases across industries.
- Understand a typical data science workflow from start to finish.

Data Lifecycle Skills

- Perform basic data collection and cleaning steps.
- Understand types of data: structured, unstructured, categorical, numerical.

Analysis & Visualization

- Explore datasets, identify patterns, and extract insights.
- Visualize findings using common plotting techniques.

Intro to Machine Learning

- Understand how predictive modeling works conceptually.
- Differentiate between regression, classification, and clustering.

Basic Statistics

- Calculate and interpret mean, median, mode, variance, and standard deviation.
- Understand distribution shapes and what they imply.

Case Study Skills

- Apply the full workflow to a small real-world problem.
- Present insights clearly and confidently.

Weekly breakdown

1. Week 1: Intro to data science, use cases
2. Week 2: Data lifecycle – collection & cleaning
3. Week 3: Data lifecycle – analysis & visualization
4. Week 4: Predictive modeling overview
5. Week 5: Basic statistics (mean, median, variance)
6. Week 6: Case study analysis project

End-of-Course Deliverables

✓ Case study report
✓ Summary of insights
✓ Demonstration of DS workflow
✓ Confidence applying DS basics