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Data Analysis Syllabus

Objective – To learn details about data analytics and tools to become job-ready.

1. **Introduction to Data Analytics**:
   - Basics of data and analytics.
   - Importance of data in decision-making.

2. **Data Basics:**
   - Types of data (structured, unstructured).
   - Data formats (CSV, JSON, etc.).

3. **Data Cleaning and Preprocessing:**
   - Handling missing data.
   - Removing duplicates.
   - Standardizing and normalizing data.

4. **Data Exploration:**
   - Descriptive statistics.
   - Data visualization (using tools like matplotlib, seaborn).

5. **Introduction to SQL:**
   - Basics of querying databases.
   - Join operations.

6. **Statistical Analysis:**
   - Hypothesis testing.
   - Probability distributions.

7. **Introduction to Machine Learning:**

- Supervised vs. unsupervised learning.

8. **Data Visualization Tools:**

- Using tools like Tableau or Power BI.
- Creating impactful visualizations.

9. **Big Data and Cloud Technologies:**

- Introduction to platforms like Hadoop and Spark.
- Basics of cloud services for data analytics.

10. **Practical Projects:**

- Real-world projects to apply learned concepts.
- Emphasize problem-solving skills.

11. **Communication and Presentation Skills:**

- Effectively communicating findings.
- Presenting insights to non-technical stakeholders.