# Sadhvi Academy Data Science Course Details

## Package 1 – Basic Data Science Course Details

Start your exciting journey into Data Science with Sadhvi Academy's Basic Data Science Course. This 90-hour program is meticulously crafted to provide a strong foundation in Python, Data Analytics, Statistics, Machine Learning, and Deep Learning.

**Course Duration:** 90 hours

## Course Modules:

| Data Science Basic Course | 90hrs |
|---|---|
| | |
| **Modules** | **Basic - 90 hrs** |
| 1 - Python | 14hrs |
| 2 - Python DA & DS | 14hrs |
| 3 - Statistics with Python | 10hrs |
| 4 - Machine learning Algorithms | 14hrs |
| 5 - Deep Learning | 28hrs |
| Capstone | 10hrs |
| | |
| **Actual Price** | **24,000** |
| **Offer Price** | **18,000** |

## Detailed Syllabus:

### Python

- Introduction to Python

- Operators, String, List and Tuple

- Set and Dictionary

- Conditional statements and loops

- Functions in Python

- Exception Handling, File Handling, and Debugging

- Modules, Packages, and Regular Expressions

- Decorators, Generators, and Comprehension in Python

## Python for Data Analytics

- Introduction to Python for Data Analytics

- Data Manipulation with Numpy

- Data Analysis with Pandas

- Matplotlib Basics

- Seaborn Basics

## Statistics

- Descriptive statistics

- Inferential statistics (hypothesis testing, confidence intervals)

- Probability distributions

- Correlation and regression analysis

## Machine Learning

- Machine learning basics and types

- Regression concepts

- Types of classification problems

- Unsupervised learning

- Feature engineering and categorical variables encoding

- Numerical variables transformation

- Feature selection

- Model evaluation metrics

- Handling imbalanced class problems

- Hyperparameter optimization

**Deep Learning**

- Introduction to deep learning
- Neural networks
- Convolutional neural networks
- Recurrent neural networks
- Introduction to Keras & TensorFlow
- Building and training deep learning models
- Evaluating and optimizing deep learning models

## Capstone Project:

Apply your knowledge and skills in a real-world scenario through a capstone project, demonstrating your proficiency in Data Science.

# Package 2 - Advanced Data Science Course Details

Become a proficient Data Scientist with Sadhvi Academy's Advanced Data Science Course. This 180-hour program is designed to provide in-depth knowledge and hands-on experience in Python, Data Science, Statistics, Machine Learning, Deep Learning, scikit-learn, TensorFlow, Keras, and Data Science in Production.

**Course Duration:** 180 hours

## Course Modules:

| Data Science Advance Course | 180hrs |
|---|---|
| | |
| **Modules** | **Advance - 180hrs** |
| 1 - Python | 20hrs |
| 2 - Python DA & DS | 24hrs |
| 3 - Statistics with Python | 14hrs |
| 4 - Machine learning Algorithms | 20hrs |
| 5 - Data Science with scikit-learn | 24hrs |
| 6 - Deep Learning | 14hrs |
| 7 - Deep Learning with TensorFlow and Keras | 20hrs |
| 8 - Data Science in Production - Building Model Pipelines | 24hrs |
| Internship | 22hrs |
| Job Preparation Course | 20hrs |
| | |
| **Actual Price** | **40,000** |
| **Offer Price** | **30,000** |

## Detailed Syllabus:

## Python (Advanced)

- Introduction to Python

- Operators, String, List and Tuple

- Set and Dictionary

- Conditional statements and loops

- Functions in Python

- OOPs (Object-Oriented Programming)

- Polymorphism and Encapsulation

- Exception Handling, File Handling, and Debugging

- Modules, Packages, and Regular Expressions

- Decorators, Generators, and Comprehension in Python

## **Python Data Science (Advanced)**

- Introduction to Data Science

- Fundamentals of data science

- Data science vs. data analysis vs. data engineering

- Descriptive and predictive analytics

- The data science life cycle

- Working with different data types

- Applications of data science across various industries

- Data Acquisition (Beautiful Soup, Scrapy)

- Data Manipulation (Numpy, Pandas)

- Data Analysis with Pandas

- Data Visualization (Matplotlib, Seaborn)

## **Statistics with Python (Advanced)**

- Probability concepts

- Statistical measures

- Joint probability

- Conditional probability and Bayes theorem

- Measures of location and variability

- Probability distributions

- Sampling methods

- Key statistical concepts

- Statistical hypothesis testing

## Machine Learning (Advanced)

- Machine learning basics and types
- Regression concepts
- Types of classification problems
- Unsupervised learning
- Feature engineering and categorical variables encoding
- Numerical variables transformation
- Feature selection
- Model evaluation metrics
- Handling imbalanced class problems
- Hyperparameter optimization
- Machine Learning Tools and Libraries
- Automated machine learning with Pandas Profiling and PyCaret
- RAPIDS (Using GPU for Fast Computations)
- Big Data Tools and Technologies

## Data Science with scikit-learn

- Data preprocessing with scikit-learn
- Data modeling with scikit-learn
- Clustering with scikit-learn
- Gradient boosting with XGBoost

## Deep Learning (Advanced)

- Introduction to deep learning
- Neural networks
- Feedforward neural networks
- Backpropagation
- Convolutional neural networks

- Recurrent neural networks
- LSTM networks

## **Deep Learning with TensorFlow and Keras**

- Introduction to TensorFlow and Keras
- Building and training deep learning models
- Evaluating and optimizing deep learning models

## **Data Science in Production - Building Model Pipelines**

- Introduction to building scalable model pipelines
- Applied data science
- Python for scalable compute
- Cloud environments and coding environments
- Introduction to datasets
- Prototype models
- Models as web endpoints
- Deploying a web endpoint
- Models as serverless functions
- Containers for reproducible models
- Workflow tools for model pipelines
- PySpark for batch pipelines
- Cloud Dataflow for batch modeling
- Streaming model workflows

**Note:** The course includes an internship program to provide hands-on experience, and a Job Preparation Course to equip students with the skills needed in the job market.

## Additional Benefits (For Advance Course):

- **Free Internship with Certificate:** Apply your knowledge in real-world projects during an internship, receiving a certificate upon completion.
- **Course Completion Certificate:** Earn a certificate upon successfully completing the Advanced Data Science Course, showcasing your proficiency.
- **Free Job Preparation Course:** Access a complimentary course to prepare for job interviews, refine your resume, and enhance your job-seeking skills.
- **Networking Opportunities:** Connect with professionals in the industry through networking events and discussions.
- **Placement Assistance:** Benefit from our placement assistance with daily job updates designed to help you secure opportunities in the data science field.

Elevate your Data Science skills to the next level with Sadhvi Academy's Advanced Data Science Course. Enroll now and explore the depths of this dynamic field!