COURSE SYLLABUS

# Python Data Science & Machine Learning Bootcamp

Master Python for data analysis, machine learning, and automation. Build predictive models, create dynamic dashboards, and unleash the power of data visualization. Launch your career in data science and Python engineering, equipped with Python, NumPy, Pandas, and Matplotlib.

Group classes in NYC and onsite training is available for this course. For more information, email corporate@nobledesktop.com or visit: https://programwithus.com/certificates/python-programming

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## Course Outline

This package includes these courses

- Python for Data Science Immersive (30 Hours)
- Python Machine Learning Immersive (30 Hours)
- Python for Automation (6 Hours)
- Python Data Visualization & Interactive Dashboards (24 Hours)

### Python for Data Science Immersive

- Programming foundations including objects, loops, and functions
- The object-oriented programming paradigm
- How to work with different types of data such as strings, lists, and integers
- Selectively alter the control flow of your programming with conditional statements
- Analyze tabular data using Python libraries NumPy and Pandas
- Create data visualizations with Matplotlib
- Predict outcomes using linear regression with scikit-learn

### Python Machine Learning Immersive

- How to clean and balance your data using the Pandas library
- Applying machine learning algorithms such as logistic regression and random forest using the scikit-learn library
- Choosing good features to use as input for your algorithms
- Properly splitting data into training, test and cross-validation sets

- Important theoretical concepts like overfitting, variance and bias
- Evaluating the performance of your machine learning models

## Python for Automation

- Learn the syntax of Python and how to construct programs
- Learn how to run your programs on a regular schedule
- How to handle errors

## Python Data Visualization & Interactive Dashboards

- Plan & present a data story
- Gather and manipulate data from different sources
- Find data stories through exploratory data analysis
- Manipulate data with NumPy and Pandas.
- Use advanced Python visualization libraries Plotly and Dash
- Build a dashboard
- Apply the rules of effective dashboard design to create professional data science solutions
- Go live with your project & deploy the dashboard on a live server