COURSE SYLLABUS

AI & Data Science Certificate

Learn Python, SQL, automation, AI integration, and advanced Python techniques to launch your career as a data scientist. This beginner-friendly program is designed to build a strong knowledge of Python and AI for entry-level data science and data analytics roles.

Group classes (NYC) and onsite training are available for this course. For more information, email corporate@nobledesktop.com or visit: https://programwithus.com/certificates/ai-data-science



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Course Outline

This package includes these courses

- Python for Data Science Immersive (30 Hours)
- SQL Bootcamp (18 Hours)
- Python for Automation (6 Hours)
- Python Data Visualization & Interactive Dashboards (30 Hours)
- Python Machine Learning Immersive (30 Hours)
- Advanced Python for Data Science Bootcamp (30 Hours)
- AI for Python (30 Hours)

Python for Data Science Immersive

- Handle different types of data, such as integers, floats, and strings
- Control the flow of your programs with conditional statements, loops, and functions
- Reuse and simplify code with object-oriented programming
- Analyze tabular data with Numpy and Pandas
- Create graphs and visualizations with Matplotlib
- Make predictions with linear regression, using scikit-learn

SQL Bootcamp

- Explore and alter data using a graphical user interface
- Write queries to search through tables programmatically
- Understand various data types and convert between them
- Combine information across tables with join statements
- Advanced techniques like subqueries and timestamp functions

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

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

Advanced Python for Data Science Bootcamp

- Learn advanced Python programming and data science techniques & tools
- Work with advanced functions like map() and filter()
- Integrate nested loops & global variables into your coding
- Use Jupyter Notebook's interactive UI elements & integrate SQL
- Perform linear & polynomial regression analysis
- Create visualizations to display data efficiently
- Extract data from online sources with web scraping

AI for Python

- Set up Flask projects and create routes for web applications
- Handle GET and POST requests, and render HTML templates in Flask
- Configure and make OpenAI API requests for sentiment analysis tasks
- Design and style HTML forms, and apply CSS to web apps
- Implement error handling and debug common issues in Flask applications
- Integrate AI models like GPT-4 into web applications using APIs