Data Science Syllabus

Foundations

40 - 100
HOURS

Start your journey in this prerequisite beginner's course by going over the fundamentals of data science and exposing you to the breadth of skills and tools in the industry professional's arsenal. In these first units, you will be introduced to the scientific programming environment, as well as the key concepts of both programming and statistical analysis.

Getting Started

Local Setup and Development Environment

Python Programming & Computer Science

Types, Flow Control, Data Structures, Functions, OOP and Time Complexity

SciPy Stack

NumPy, pandas and matplotlib

Mathematics

Statistics, Probability, Calculus and Linear Algebra

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Data Analysis

100 - 160
HOURS

Students will tackle a wide variety of topics under the umbrella of exploratory data analysis. Getting, cleaning, analyzing and visualizing raw data is the main job responsibility of industry data scientists. Here you will learn how to discover patterns and trends that influence your future modeling decisions.

Getting and Cleaning Data

Static Files, SQL, Web Scraping, APIs and Messy Data

Statistical Inference

Event Space, Probability, Distributions and Hypothesis Testing

Summarizing and Visualizing Data

Descriptive Statistics, Univariate and Multivariate Exploratory Data Analysis

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Machine Learning

200 - 260
HOURS

Students will learn how to explore new data sets, implement a comprehensive set of machine learning algorithms from scratch, and master all the components of a predictive model, such as data preprocessing, feature engineering, model selection, performance metrics and hyperparameter optimization.

Predictive Modeling

Regression, Classification, Data Preprocessing, Model Evaluation and Ensembles

Data Mining

Dimensionality Reduction, Clustering, Association Rules, Anomaly Detection, Network Analysis and Recommender Systems

Specialty Topics

Data Engineering, Natural Language Processing, and Web Applications

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Applied Projects

250 - 400
HOURS

After mastering the curriculum, the Project Phase is all about applying what you've learned on either mock or live industry projects. You'll be given the opportunity to create real-world deliverables.

Independent Project

Project based on personal interest or identified business problem with current employer

Career Prep

50 +
HOURS

The support and mentorship doesn't end at graduation. We're personally committed to working with every one of our alumni for as long as they need to continue evaluating work, providing mentorship and guidance, and facilitating their job search.

Workshops

Resume, Cover Letter, LinkedIn, GitHub Portfolio and Networking Advice

Interview Preparation

Behavioral Questions and Mock Technical Challenges