

## Course Description

In this course, you'll learn how to leverage pandas' extremely powerful data manipulation engine to get the most out of your data. It is important to be able to extract, filter, and transform data from DataFrames in order to drill into the data that really matters. The pandas library has many techniques that make this process efficient and intuitive. You will learn how to tidy, rearrange, and restructure your data by pivoting or melting and stacking or unstacking DataFrames. These are all fundamental next steps on the road to becoming a well-rounded Data Scientist, and you will have the chance to apply all the concepts you learn to real-world datasets.

### 1 Extracting and transforming data FREE

100%

In this chapter, you will learn all about how to index, slice, filter, and transform DataFrames, using a variety of datasets, ranging from 2012 US election data for the state of Pennsylvania to Pittsburgh weather data.

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### 2 Advanced indexing

100%

Having learned the fundamentals of working with DataFrames, you will now move on to more advanced indexing techniques. You will learn about MultiIndexes, or hierarchical indexes, and learn how to interact with and extract data from them.

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### 3 Rearranging and reshaping data

100%

Here, you will learn how to reshape your DataFrames using techniques such as pivoting, melting, stacking, and unstacking. These are powerful techniques that allow you to tidy and rearrange your data into the format that allows you to most easily analyze it for insights.

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#### 4 Grouping data

**100%**

In this chapter, you'll learn how to identify and split DataFrames by groups or categories for further aggregation or analysis. You'll also learn how to transform and filter your data, including how to detect outliers and impute missing values. Knowing how to effectively group data in pandas can be a seriously powerful addition to your data science toolbox.

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#### 5 Bringing it all together

**100%**

Here, you will bring together everything you have learned in this course while working with data recorded from the Summer Olympic games that goes as far back as 1896! This is a rich dataset that will allow you to fully apply the data manipulation techniques you have learned. You will pivot, unstack, group, slice, and reshape your data as you explore this dataset and uncover some truly fascinating insights. Enjoy!

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