

# Data Analysis Professional Syllabus

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## Contact Info

While going through the program, if you have questions about anything, you can reach us at [support@udacity.com](mailto:support@udacity.com). For help from Udacity Mentors and your peers visit the Udacity Classroom.

## Nanodegree Program Info

**Version:** 1.0.0

**Length of Program:** 55 Days\*

*\* This is a self-paced program and the length is an estimation of total hours the average student may take to complete all required coursework, including lecture and project time. Actual hours may vary.*

## Part 1: Introduction to the Program

Welcome to Egypt "Future Work is Digital" initiative.

## Part 2: Introduction to Python

Learn Python programming fundamentals such as data types and structures, variables, loops, and functions.

### **Project: Explore US Bikeshare Data**

Use Python to understand U.S. bikeshare data. Calculate statistics and build an interactive environment where a user chooses the data and filter for a dataset to analyze.

### **Supporting Lessons**

Lesson	Summary
<b>Why Python Programming</b>	Welcome to Introduction to Python! Here's an overview of the course.
<b>Data Types and Operators</b>	Familiarize yourself with the building blocks of Python! Learn about data types and operators, built-in functions, type conversion, whitespace, and style guidelines.
<b>Data Structures</b>	Use data structures to order and group different data types together! Learn about the types of data structures in Python, along with more useful built-in functions and operators.
<b>Control Flow</b>	Build logic into your code with control flow tools! Learn about conditional statements, repeating code with loops and useful built-in functions, and list comprehensions.
<b>Functions</b>	Learn how to use functions to improve and reuse your code! Learn about functions, variable scope, documentation, lambda expressions, iterators, and generators.
<b>Scripting</b>	Setup your own programming environment to write and run Python scripts locally! Learn good scripting practices, interact with different inputs, and discover awesome tools.
<b>NumPy</b>	Learn the basics of NumPy and how to use it to create and manipulate arrays.
<b>Pandas</b>	Learn the basics of Pandas Series and DataFrames and how to use them to load and process data.
<b>Advanced Topics</b>	In this lesson we cover some advanced topics of iterators and generators. You are not required to complete this but we have provided these to give you a taste of these.

## Part 3: Introduction to Data Analysis

Learn the data analysis process of questioning, wrangling, exploring, analyzing, and communicating data. Learn how to work with data in Python using libraries like NumPy and Pandas.

## Part 4: Data Wrangling

Learn the data wrangling process of gathering, assessing, and cleaning data. Learn how to use Python to wrangle data programmatically and prepare it for deeper analysis.

## Project: Wrangle and Analyze Data

Gather data from a variety of sources and in a variety of formats, assess its quality and tidiness, then clean it. Showcase your wrangling efforts through analyses and visualizations.

### Supporting Lessons

Lesson	Summary
Introduction to Data Wrangling	Identify each step of the data wrangling process (gathering, assessing, cleaning) through a brief walkthrough of the process. The dataset for this lesson is an online job postings dataset from Kaggle.
Gathering Data	Gather data from various sources and a variety of file formats using Python. Rotten Tomatoes ratings, Roger Ebert reviews, and Wikipedia movie poster images make up the dataset for this lesson.
Assessing Data	Assess data visually and programmatically for quality and tidiness issues using pandas. The dataset for this lesson is mock Phase II clinical trial data for a new oral insulin called Auralin.
Cleaning Data	Using pandas, clean the quality and tidiness issues you identified in the "Assessing Data" lesson. The dataset is the same: mock Phase II clinical trial data for a new oral insulin called Auralin.

## Part 5: Digital Freelancing - Intro

## Part 6: Digital Freelancing - Pro

### Project: Conquer the freelancing marketplaces

After finishing the intro and pro parts of the freelancing speciality, you need to submit a comprehensive project that tests your awareness and readiness for the freelancing work basic requirements.

### Supporting Lessons

## مخطط البرنامج

Welcome to the "Digital Freelancing - Pro"! In this part, we will hone your soft skills in order to be able to communicate with your client. You'll learn how to write a project proposal to win your

## المنصات التخصصية

ستتعرف على أهمية مواقع المنصات التخصصية مثل Github, Behance, Dribbble, Stack Overflow, Kaggle للاستفادة من تجارب الآخرين و أيضا للترويج لعملك كفري لانسر في المكان المناسب.

## إنشاء مدونة

## إدارة العملاء

## عرض العمل (proposal)

## مهارات التواصل

## التسويق

## إدارة المشاريع

## الإدارة الذاتية

## تطوير المهارات

## الإنضمام للوكالات

## Part 7: Congratulations and Next Steps!



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