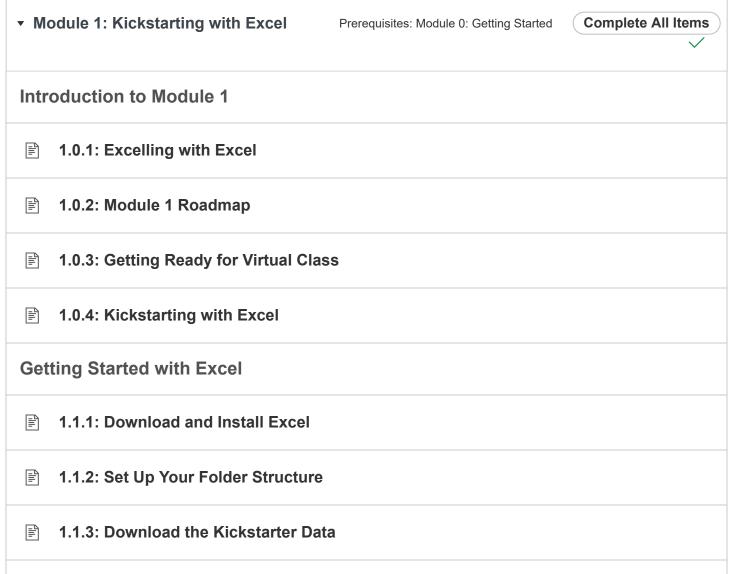
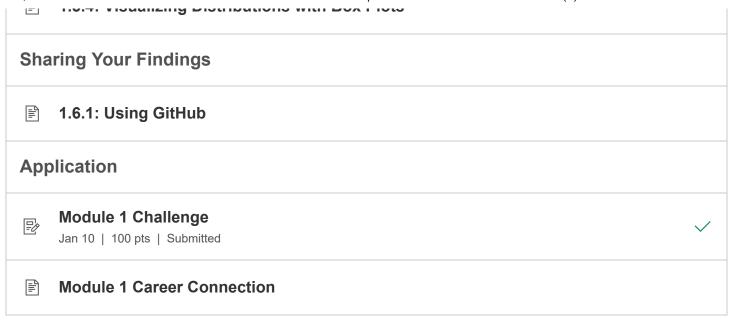
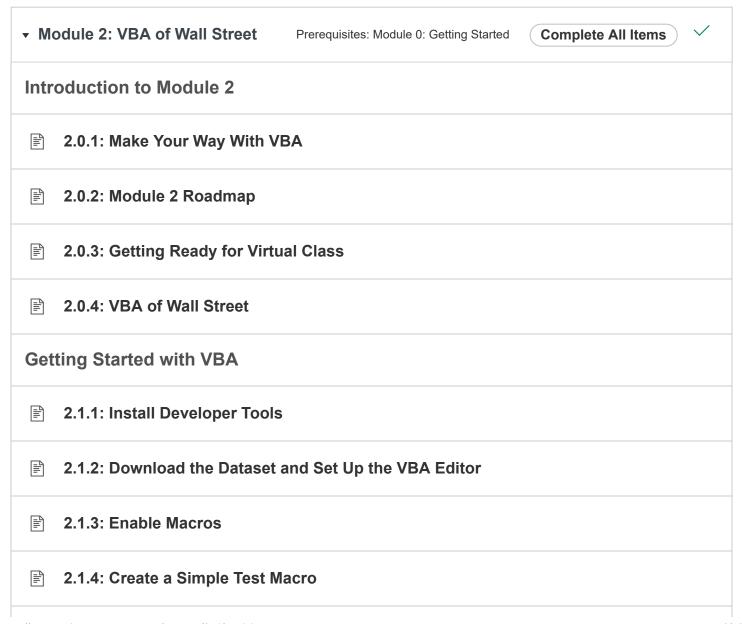
Collapse All

→ M	odule 0: Getting Started	Complete All Items
	Welcome to the Course	
	Explore the Syllabus	
	Onboarding Survey 0 pts Submitted	~

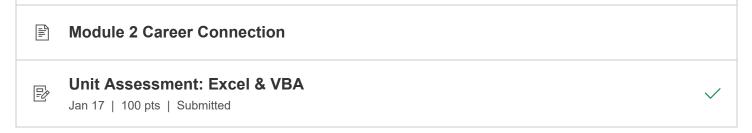


VICWING LINE Data
1.2.1: Get Situated in the Big Picture
1.2.2: Initial Look at the Data
1.2.3: Filtering, Formatting, and Freezing
1.2.4: Conditional Formatting
1.2.5: Finding Averages
1.2.6: Errors and Debugging
Using Pivot Tables and Pivot Charts
1.3.1: Pivoting Toward Success
1.3.2: Charting the Parent Category
1.3.3: Timing Success
Using Filters and Searches to Deepen Your Analysis
1.4.1: Extra Filters
1.4.2: VLOOKUP
Applying Descriptive Statistics and Visualization
1.5.1: Measures of Central Tendency
1.5.2: Measures of Spread
1.5.3: Identifying and Addressing Outliers





Analyze Stock Data with VBA
2.2.1: Create a Worksheet for Your Analysis
2.2.2: Write Readable Code
2.2.3: Find Total Daily Volume for DQ in 2018
2.2.4: Get DQ's Yearly Return for 2018
Analyze Multiple Stocks
2.3.1: Create a New Worksheet and Subroutine
2.3.2: Loop Over All Tickers
≘ 2.3.3: Reuse Code
Make the Worksheet Readable
2.4.1: Static Formatting
2.4.2: Conditional Formatting
Make the Worksheet Interactive
2.5.1: Make a Run Button
2.5.2: Run the Analysis for Any Year
2.5.3: Measure Code Performance
Application
Module 2 Challenge Jan 17 100 pts Submitted



▼ Module 3: PyPoll with Python	Prerequisites: Module 0: Getting Started	Complete All Items
Introduction to Module 3		
 3.0.1: The Power of Python		
3.0.2: Module 3 Roadmap		
	al Class	
3.0.4: Welcome to PyPoll		
Get Started with the Command	d Line and Python	
3.1.1: The Command Line 3.1.1: 3.1.1: 3.1.1: 3.1.1: 3.1.1: 3.1.1: 3.1.1: 3.1.1: 3.1.1: 3.1.1: 3.1.1:		
3.1.2: Install Python		
∄ 3.1.3: Install Visual Studio Co	ode	
	itory	
3.1.5: Clone a GitHub Reposi	tory	
Python Practice		
3.2.1: Create a Python File		

2/6/22, 11:2 	Modules - Bootcamp: UCB-VIRT-DATA-PT-12-2021-U-B-MW(A) 3.4.4. Execute Fytholi Files
	3.2.3: Data Types
	3.2.4: Perform Calculations Using Python
illi	3.2.5: Data Structures: Lists
ÎIII.	3.2.6: Data Structures: Tuples
	3.2.7: Data Structures: Dictionaries
	3.2.8: Decision Statements
il.	3.2.9: Membership and Logical Operators
	3.2.10: Repetition Statements
illi	3.2.11: Printing Formats
Ор	en the Election Results
alli.	3.3.1: Import and Inspect the Data
alli.	3.3.2: Overview of the Project
	3.3.3: Pseudocoding
Get	Started with File Processing
illi	3.4.1: Python Dependencies, Modules, and Packages
alli.	3.4.2: Open and Read Files Using Python
	3.4.3: Write to Files with Python

0/22, 11.22	Woodles Bestearing, OSB VIIV 11 12 2021 OSB WWV/V	
illi	3.4.4: Read the Election Results	
allılı.	3.4.5: Commit Your Code	
Ana	lyzing the Election Data	
	3.5.1: Get the Total Votes	
illi	3.5.2: Get the Candidates in the Election	
	3.5.3: Get the Candidates' Votes	
	3.5.4: Determine Candidates' Percentage of Votes	
	3.5.5: Determine the Winning Candidate	
	3.5.6: Commit Your Code	
Fina	lize the Election Results	
	3.6.1: Write the Election Results to a Text File	
	3.6.2: Write the Candidates' Results to a Text File	
	3.6.3: Write the Winning Candidate's Results to a Text File	
	3.6.4: Commit the Final Code to GitHub	
	3.6.5: Update Your README File	
Арр	Application	
	Module 3 Challenge Jan 24 100 pts Submitted	
	Module 3 Career Connection	

	dule 4: PyCitySchools with Pandas plete All Items	Prerequisites: Module 0: Getting Started
Intro	eduction to Module 4	
	4.0.1: Using Pandas and Jupyter Notebook	
	4.0.2: Module 4 Roadmap	
	4.0.3: Getting Ready for Virtual Class	
	4.0.4: PyCitySchools	
Ana	conda Installation and Jupyter Notebook	
	4.1.1: Overview of Anaconda	
	4.1.2: Introduction to Jupyter Notebook	
Crea	nting and Activating a Development Enviro	nment
	4.2.1: Create Your Development Environment	
	4.2.2: Activate Your Development Environment	
	4.2.3: Create and Clone a New GitHub Repositor	ry
Wor	king with Jupyter Notebook and Pandas	
	4.3.1: Start Your Jupyter Notebook Server	
	4.3.2: Create a Jupyter Notebook File	

2/0/22, 11.2 <u>=</u>	**************************************
	4.3.4: Practice Using Jupyter Notebook
	4.3.5: Overview of the Pandas Library
Cor	nvert CSV Files to a Pandas DataFrame
	4.4.1: Import and Inspect CSV Files
	4.4.2: Overview of the School Data Analysis Project
	4.4.3: Load and Read CSV Files
	4.4.4: Commit Your Code
Exp	oloring the Data
	4.5.1: Find Missing Values
	4.5.2: Handle Missing Data
	4.5.3: Determine Data Types
	4.5.4: Get the Incorrect Student Names
	4.5.5: Remove Strings: strip() vs. replace()
	4.5.6: Replace Substrings
	4.5.7: Fix the Students' Names
	4.5.8: Commit Your Code
Ver	ify the Clean Student Data

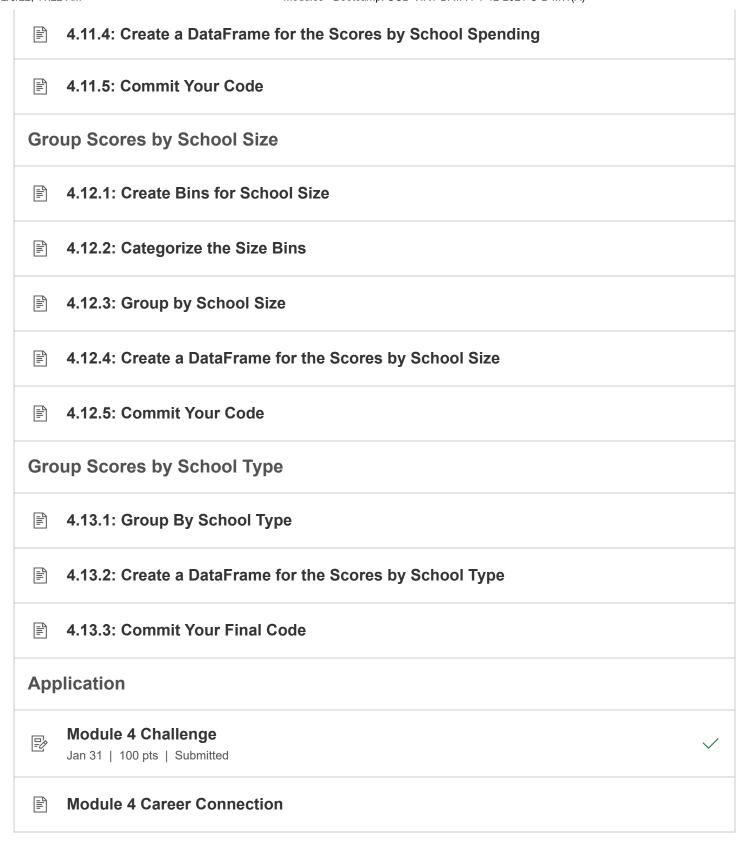
2/6/22, 11:2 <u> </u>	2 AM Modules - Bootcamp: UCB-VIRT-DATA-PT-12-2021-U-B-MW(A) 4.0.1. DOWINDAU A VVOIKING VEISION OF THE COUR
Ger	nerate the School District Summary
	4.7.1: Merge DataFrames
	4.7.2: Get the Number of Students
	4.7.3: Get the Number of Schools
	4.7.4: Get the Total Budget
	4.7.5: Get the Score Averages
	4.7.6: Get the Passing Percentages
	4.7.7: Create a District Summary DataFrame
	4.7.8: Format Columns
	4.7.9: Reorder Columns
	4.7.10: Commit Your Code
Ger	nerate the School Summary
	4.8.1: Set the Index to the School Name
	4.8.2: Get the Student Count Per School
	4.8.3: Get the Budget Per Student
	4.8.4: Get the Score Averages Per School
	4.8.5: Get the Passing Percentages Per School

4.8.6: Create the School Summary DataFrame
4.8.7: Clean Up the DataFrame
4.8.8: Commit Your Code
High and Low Performing Schools
4.9.1: Find the Highest Performing Schools

≇ 4.9.3: Object Oriented Programming
4.9.4: Commit Your Code
Average Math and Reading Scores by Grade
4.10.1: Create Grade-Level DataFrames

≇ 4.10.3: Combine each grade level Series into a DataFrame
≇ 4.10.4: Format the Averages and Remove the Index Name
4.10.5: Commit Your Code
Group Scores by School Spending per Student
4.11.1: Establish the Spending Ranges per Student

4.11.3: Group by the Spending Ranges



Module 5: PyBer with Matplotlib

Prerequisites: Module 0: Getting Started

Complete All Items

Introduction to Module 5	
 	
 	
 	
∄ 5.0.4: PyBer	
Create Visualizations Using Matplotlib	
⋾ 5.1.1: Create and Clone a New GitHub Repository	
 	
 	
 	
 ■ 5.1.5: Create Bar Charts Using the MATLAB Approach	
⋾ 5.1.6: Create Bar Charts Using the Object-Oriented Approach	
 	
Convert CSV Files to Pandas DataFrames	
5.2.1: Import and Inspect CSV Files	

 5.2.2: Overview of the Project
 5.2.3: Load and Read the CSV files
 5.2.4: Explore the Data in Pandas
 5.2.5: Commit Your Code
Create a Bubble Chart for the Ride-Sharing Data
 5.3.1: Create DataFrames for Each Type of City
 5.3.2: Get the Number of Rides for Each City Type
 5.3.3: Get the Average Fare for Each City Type
5.3.4: Get the Average Number of Drivers for Each City Type
 5.3.5: Create Bubble Charts
5.3.6: Create a Bubble Chart for All Cities
5.3.7: Commit Your Code
Calculate Summary Statistics
5.4.1: Summary Statistics for Number of Rides by City Type
5.4.2: Summary Statistics for the Fare by City Type
5.4.3: Summary Statistics for the Number of Drivers by City Type
5.4.4: Create Box-and-Whisker Plots
5.4.5: Commit Your Code

Percentage of Total Fares by City Type		
5.5.1: Get the Percentage of Fares for Each City Type		
⋾ 5.5.2: Pie Chart for the Percentage of Fares by City Type		
 5.5.3: Commit Your Code		
Percentage of Total Rides by City Type		
 		
5.6.2: Pie Chart for Percentage of Rides by City Type		
5.6.3: Commit Your Code		
Percentage of Total Drivers by City Type		
 5.7.1: Calculate Driver Percentages		
5.7.2: Pie Chart for the Percentage of Drivers for Each City Type		
5.7.3: Commit Your Final Code		
Application		
Module 5 Challenge Feb 7 100 pts Submitted		
■ Module 5 Career Connection		

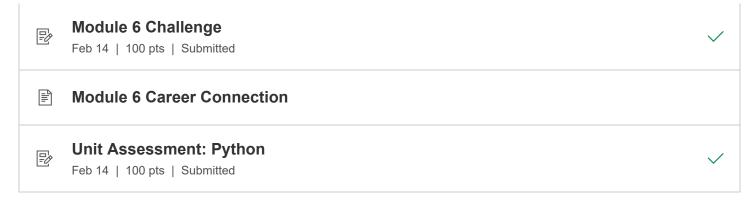
▼ Module 6: WeatherPy with Python APIs

Complete All Items

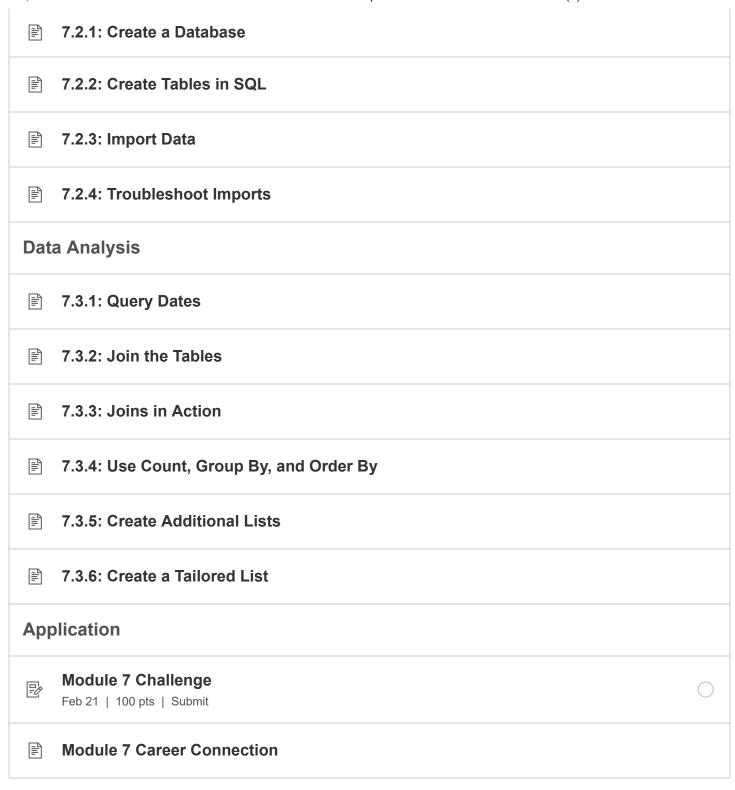
Prerequisites: Module 0: Getting Started

Introduction to Module 6		
 6.0.1: Using APIs to Visualize Weather Data		
 6.0.2: Module 6 Roadmap		
 6.0.3: Getting Ready for Virtual Class		
 6.0.4: Welcome to APIs and World Wide Weather		
Generate Random Coordinates of World Cities		
 6.1.1: Create and Clone a New GitHub Repository		
 		
 		
 6.1.4: Generate Random Latitudes and Longitudes		
€ 6.1.5: Generate Random World Cities		
Retrieve, Collect, and Clean Weather Data		
 6.2.1: Understanding APIs		
 6.2.2: Get Started with OpenWeatherMap API		
 		
 		
 6.2.5: Parse a Response from an API		
 		

 6.2.7: Create a DataFrame of City Weather Data		
Plot Weather Data		
 		
€ 6.3.2: Plot Latitude vs. Humidity		
€ 6.3.3: Plot Latitude vs. Cloudiness		
€ 6.3.4: Plot Latitude vs. Wind Speed		
Determine Correlations		
 6.4.1: Use Linear Regression to Find the Relationship Between Variables		
 6.4.2: Find the Correlation Between Latitude and Maximum Temperature		
 € 6.4.3: Find the Correlation Between Latitude and Percent Humidity		
6.4.4: Find the Correlation Between Latitude and Percent Cloudiness		
 6.4.5: Find the Correlation Between Latitude and Wind Speed		
Use Google API to Create Heatmaps		
 		
6.5.2: Create Heatmaps for Weather Parameters		
 6.5.3: Get Vacation Criteria		
€ 6.5.4: Map Vacation Criteria		
Application		



 ▼ Module 7: Employee Database with SQL Complete All Items 	Prerequisites: Module 0: Getting Started
Introduction to Module 7	
₹ 7.0.1: Exploring Databases with SQL	
₹ 7.0.3: Getting Ready for Virtual Class	
₹ 7.0.4: Welcome to Pewlett Hackard!	
Data Modeling	
₹ 7.1.1: Download and Install Your Tools	
₹ 7.1.2: Identifying Data Relationships	
₹ 7.1.3: Determine Entity Relationships	
7.1.4: Use the Quick Database Diagrams Tools	
7.1.5: Create ERDs	
Data Engineering	



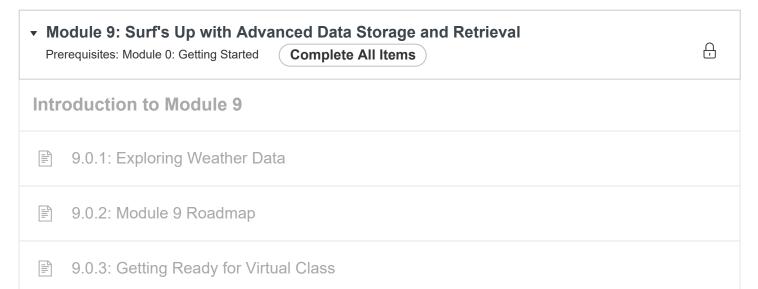
▼ Module 8: ETL - Extract, Transform, Load Complete All Items

Prerequisites: Module 0: Getting Started

Introduction to Module 8

//6/22, 11:2 	o.u.i. Use ⊏i∟ to Collect, Illiport, allu Flocess Data		
	8.0.2: Module 8 Roadmap		
	8.0.3: Getting Ready for Virtual Class		
	8.0.4: Lights! Camera! Data!		
Ove	Overview of the ETL Process		
	8.1.1: Extract, Transform, Load		
Extract the Data			
	8.2.1: Extract the Wikipedia Movies JSON		
	8.2.2: Extract the Kaggle Data		
Cle	an Individual Datasets		
	8.3.1: Data-Cleaning Strategies		
	8.3.2: Iterative Process for Cleaning Data		
	8.3.3: Investigate the Wikipedia Data		
	8.3.4: Revisit Functions		
	8.3.5: Create a Function to Clean the Data, Part 1		
	8.3.6: Create a Function to Clean the Data, Part 2		
	8.3.7: Remove Duplicate Rows		
	8.3.8: Make a Plan to Convert and Parse the Data		

6/22, 11.2 <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> <u> </u>	o.ə.ə: vvrite regular Expressions		
	8.3.10: Parse the Box Office Data		
	8.3.11: Parse Budget Data		
	8.3.12: Clean the Kaggle Data		
Mer	Merge Datasets		
	8.4.1: Merge Wikipedia and Kaggle Metadata		
	8.4.2: Transform and Merge Rating Data		
Load the Data			
illi.	8.5.1: Connect Pandas and SQL		
Application			
	Module 8 Challenge Feb 28 100 pts Submit		
	Module 8 Career Connection		



	9.0.4: Investing in Waves and Ice Cream	
SQI	Lite and SQLAIchemy	
	9.1.1: Download the Weather Data	
	9.1.2: Prepare Your Tools	
	9.1.3: Import Dependencies	
	9.1.4: Getting Started with SQLite	
	9.1.5: Getting Started with SQLAlchemy	
Pre	cipitation Analysis	
	9.2.1: Retrieve the Precipitation Data	
	9.2.2: Save Query Results	
	9.2.3: Sort the DataFrame	
	9.2.4: Plot the Data	
	9.2.5: Generate the Summary	
Weather Station Analysis		
	9.3.1: Find the Number of Stations	
	9.3.2: Determine the Most Active Stations	
=======================================	9.3.3: Find Low, High, and Average Temperatures	
	9.3.4: Plot the Highest Number of Observations	

Get	ting Acquainted with Flask	
=	9.4.1: Incorporate Flask into Data Analysis	
=	9.4.2: Building Flask Routes	
=	9.4.3: Set Up Flask and Create a Route	
Build a Climate App Using Flask		
	9.5.1: Set Up the Database and Flask	
	9.5.2: Create the Welcome Route	
	9.5.3: Precipitation Route	
	9.5.4: Stations Route	
	9.5.5: Monthly Temperature Route	
	9.5.6: Statistics Route	
App	olication	
	Module 9 Challenge Mar 7 100 pts Submit	
	Module 9 Career Connection	
	Unit Assessment: Databases Mar 7 100 pts Submit	

Will unlock Feb 11 at 1:01am

▼ Module 10: Mission to Mars - Web Scraping with HTML/CSS

А

Prerequisites: Module 0: Getting Started

Complete All Items

Introduction to Module 10

10.0.1: Web Scraping to Extract Online Data

10.0.2: Module 10 Roadmap

10.0.3: Getting Ready for Virtual Class

10.0.4: Tools for Scraping

Getting Started Using Web Scraping Tools

10.1.1: Install Your Tools

Opening the Window to the Internet

10.2.1: Use HTML Elements

10.2.2: Using Chrome Developer Tools

Automate a Web Browser and Perform a Web Scrape

10.3.1: Use Splinter

10.3.2: Practice with Splinter and BeautifulSoup

10.3.3: Scrape Mars Data: The News

10.3.4: Scrape Mars Data: Featured Image

10.3.5: Scrape Mars Data: Mars Facts

10.3.6: Export to Python

Access Data in MongoDB

	10.4.1: Store the Data		
Dis	Display Data With Flask		
	10.5.1: Use Flask to Create a Web App		
==	10.5.2: Update the Code		
==	10.5.3: Integrate MongoDB Into the Web App		
Make It Pretty			
	10.6.1: Customize the Appearance		
Sho	ow It Off		
===	10.7.1: Create a Portfolio		
Application			
	Module 10 Challenge Mar 14 100 pts Submit		
	Module 10 Career Connection		

Will unlock Feb 18 at 1:01am

✓ Module 11: UFO Sightings with JavaScript Prerequisites: Module 0: Getting Started Complete All Items Introduction to Module 11 Introduction to Module 11 11.0.1: Creating Dynamic Content

	11.0.3: Getting Ready for Virtual Class	
	11.0.4: JavaScript, Bootstrap, and UFOs	
Jav	aScript Basics	
	11.1.1: Overview of ES6+	
	11.1.2: JavaScript in the Real World	
	11.1.3: Writing JavaScript	
Bui	lding Webpages with JavaScript	
	11.2.1: JavaScript Components	
	11.2.2: Organize Your Repository	
	11.2.3: JavaScript Objects	
	11.2.4: Storyboarding	
Fun	nctional JavaScript	
	11.3.1: Getting Started with JavaScript Functions	
	11.3.2: Simple JavaScript Functions	
	11.3.3: From Simple Functions to Arrow Functions	
JavaScript for Loops		
	11.4.1: Use a JavaScript for Loop	
	11.4.2: Practice Using for Loops in JavaScript	

Bui	Iding Dynamic Tables	
	11.5.1: Introduction to Dynamic Tables	
=	11.5.2: Add forEach to Your Table	
==	11.5.3: Add Filters	
==	11.5.4: Use the "If" Statement	
Bui	Id the HTML	
	11.6.1: Bootstrap Components	
	11.6.2: Add the Data	
	11.6.3: Customize the Page with CSS	
Application		
	Module 11 Challenge Mar 21 100 pts Submit	
	Module 11 Career Connection	

Will unlock Feb 25 at 1:01am

▼ Module 12: Plotly & Belly Button Biodiversity Complete All Items	Prerequisites: Module 0: Getting Started
Introduction to Module 12	
12.0.1: Data Visualization in JavaScript	
12.0.2: Module 12 Roadmap	

	12.0.3: Getting Ready for Virtual Class	
	12.0.4: From Bacteria to Beef	
Get	ting Started with Plotly	
	12.1.1: Organizing Your Tools	
	12.1.2: Inspect a Plotly.js Chart	
	12.1.3: Create a Bar Chart	
	12.1.4: Create a Pie Chart	
Tra	nsform Data with JavaScript	
	12.2.1: Functional JavaScript	
	12.2.2: Practicing JavaScript Methods	
Ret	rieve External Data	
	12.3.1: Inspect an API call with D3.json()	
	12.3.2: Load a JSON file with D3.json()	
	12.3.3: Handle CORS Errors	
JavaScript Events		
	12.4.1: JavaScript Event Listeners	
	12.4.2: Create a Dynamic Plotly Chart	
	12.4.3: Belly Button Demographics Panel	

Deployment		
12.5.1: Deploy the Project to GitHub Pages		
Application		
Module 12 Challenge Mar 28 100 pts Submit		
Module 12 Career Connection		

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	odule 13: Mapping Earthquakes with JS & APIs	Prerequisites: Module 0: Getting Started
Intr	oduction to Module 13	
	13.0.1: Visualizing Earthquake Data	
=	13.0.2: Module 13 Roadmap	
=	13.0.3: Getting Ready for Virtual Class	
	13.0.4: Welcome to Mapping Earthquakes	
The	Earthquake Mapping Project	
	13.1.1: Create and Clone a New GitHub Repository	
	13.1.2: Project Overview	
Cre	ate Your First Map	
	13.2.1: The Mapbox API	

13.2.2: Create a Branch on Your Repository		
13.2.3: Create an HTML File and CSS File		
Don't Mess with the main Branch		
13.3.1: Add, Commit, and Push to a Branch		
13.3.2: Compare Branch to the main Branch		
13.3.3: Create a Pull Request		
13.3.4: Merge Branch Into main Branch		
Map Geographical Features		
13.4.2: Map Multiple Points		
13.4.3: Map Lines		
Map GeoJSON Data		
13.5.1: Overview of GeoJSON Data		
13.5.2: Map GeoJSON Point Type		
13.5.5: Map GeoJSON LineStrings		

	13.5.6: Map GeoJSON Polygons		
Ma	Map Earthquakes		
	13.6.1: Add Earthquake Data to a Map		
	13.6.2: Add Style to the Earthquake Data		
	13.6.3: Add Color and a Popup for Each Earthquake		
	13.6.4: Add Earthquake Data as an Overlay		
	13.6.5: Add a Legend to the Map		
	13.6.6: Merge the Earthquake Branch with the main Branch		
Application			
	Module 13 Challenge Apr 4 100 pts Submit		
	Module 13 Career Connection		

Will unlock Mar 11 at 1:01am



	14.0.4: Citi Bike Cruisin'	
Tableau Basics		
	14.1.1: Install Tableau Public	
	14.1.2: Download the Data	
	14.1.3: Set Up the Tableau Environment	
===	14.1.4: Import Data into Tableau	
	14.1.5: Overview of Tableau	
Tab	leau Worksheets, Part 1	
	14.2.1: Set Up Your Tableau Workspace	
	14.2.2: Introduction to Tableau Worksheets	
	14.2.3: Worksheet Best Practices	
	14.2.4: Using and Portraying Data to Answer Questions	
	14.2.5: Determine the Number of Trips	
	14.2.6: Find the Proportion of Short Term Customers to Annual Subscribers	
	14.2.7: Find the Peak Riding Hours in August	
Tableau Worksheets, Part 2		
==	14.3.1: Find Top Starting Locations	
iii.	14.3.2: Find Top Ending Locations	

	14.3.3: Find the Number of Rides by Gender		
	14.3.4: Find the Average Trip Duration by Age		
	14.3.5: Determine the Bikes Due for Repair		
	14.3.6: Determine Bike Utilization		
Tab	oleau Dashboards		
	14.4.1: Introduction to Dashboards		
	14.4.2: Dashboard Best Practices		
	14.4.3: Add Worksheets to the Citi Bike Dashboard		
Fin	al Presentation		
	14.5.1: Introduction to Tableau Stories		
App	olication		
	Module 14 Challenge Apr 11 100 pts Submit		
	Module 14 Career Connection		
	Unit Assessment: Visualization Apr 11 100 pts Submit		

Will unlock Mar 18 at 1:01am

▼ Module 15: Statistics and R	Prerequisites: Module 0: Getting Started	Complete All Items
Introduction to Module 15		

	15.0.1: Using Statistics and R to Boost Your Data Science Repertoire		
	15.0.2: Module 15 Roadmap		
	15.0.3: Getting Ready for Virtual Class		
	15.0.4: Putting the R in AutosRUs		
Gett	ing Started with R		
	15.1.1: Introduction to R		
	15.1.2: Install R		
	15.1.3: Install RStudio		
Programming and ETL in R			
	15.2.1: Fundamentals of R Programming		
	15.2.2: Functions in R		
	15.2.3: Read and Write Using R		
	15.2.4: Select Data in R		
	15.2.5: Transform, Group, and Reshape Data Using the Tidyverse Package		
Visualize Your Data Using ggplot2			
	15.3.1: Introduction to ggplot2		
	15.3.2: Build a Bar Plot in ggplot2		
	15.3.3: Add Formatting Functions		

15.3.4: Build a Line Plot in ggplot2		
15.3.5: Create Advanced Boxplots in ggplot2		
15.3.6: Create Heatmap Plots		
15.3.7: Add Layers to Plots		
Introduction to Statistical Tests		
15.4.1: Identifying Statistical Test Types		
15.4.2: Identify Different Data Types		
15.4.3: Dive Into Distributions		
15.4.4: Test for Normality		
Introduction to Hypothesis Testing		
15.5.1: Practice Hypothesis Testing		
15.5.2: Assess Error in Hypothesis Testing		
Perform an Analysis of Means in R		
15.6.2: Use the One-Sample t-Test		
15.6.3: Use the Two-Sample t-Test		
15.6.4: Use the Two-Sample t-Test to Compare Samples		

15.6.5: Use the ANOVA Test		
Correlation and Regression in R		
15.7.1: The Correlation Conundrum		
15.7.2: Return to Linear Regression		
15.7.3: Perform Multiple Linear Regression		
Characterize Categorical Data		
15.8.1: Category Complexities		
Getting Real With A/B Testing		
15.9.1: Practice A/B Testing		
Choose the Right Test for Your Data		
15.10.1: Whose Analysis Is It Anyway?		
Application		
Module 15 Challenge Apr 18 100 pts Submit		
Module 15 Career Connection		

Will unlock Mar 25 at 1:01am

▼ Module 16: Big Data	Prerequisites: Module 0: Getting Started	Complete All Items
Introduction to Module 16		

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		16.0.1: Grasping the Scope of Big Data	
		16.0.2: Module 16 Roadmap	
		16.0.3: Getting Ready for Virtual Class	
		16.0.4: Welcome to Big Data!	
	Ove	erview of Big Data	
		16.1.1: What Is Big Data?	
		16.1.2: Big Data Technologies	
	Using MapReduce to Process Data		
		16.2.1: MapReduce Process	
		16.2.2: mrjob Library	
	Usiı	ng Spark to Handle Large Datasets	
		16.3.1: Key Features of Spark	
		16.3.2: Spark Architecture	
		16.3.3: Spark Parallelism	
		16.3.4: Spark API	
	Wor	rking with Spark DataFrames and Functions	
		16.4.1: PySpark in Google Colab Notebooks	
		16.4.2: Spark DataFrames and Datasets	

	16.4.3: Spark Functions		
Natural Language Processing			
	16.5.1: Natural Language Processing		
	16.5.3: NLP Core Concepts		
	16.5.4: NLP Use Cases		
	16.5.5: NLP Pipeline		
PyS	PySpark and Natural Language Processing		
	16.6.1: Tokenize Data		
	16.6.2: Stop Words		
	16.6.3: Term Frequency-Inverse Document Frequency Weight		
	16.6.4: Pipeline Setup to Run the Model		
	16.6.5: Run the Model		
Cloud Databases with Amazon Web Services			
	16.7.1: Evaluate Amazon Web Services		
	16.7.2: Create an AWS Relational Database		
	16.7.3: Connect pgAdmin to Your RDS Instance		
	16.7.4: Test with Create, Read, Update, and Delete		

Cloud Storage with S3 on AWS			
16.8.2: AWS's Simple Storage Service			
ETL in the Cloud			
16.9.1: PySpark ETL			
16.9.3: Check AWS billing			
Application			
Module 16 Challenge Apr 25 100 pts Submit			
Module 16 Career Connection			

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17.0.4: Predicting Credit Risk		
Machine Learning Environment		
17.1.1: Create a Machine Learning Environment		
Supervised Learning		
17.2.1: Overview of Machine Learning		
17.2.2: Supervised Learning: Regression and Classification		
Logistic Regression		
17.3.1: Overview of Logistic Regression		
17.3.2: Logistic Regression to Predict Diabetes		
17.3.3: How Logistic Regression Works		
Classification Model Validation		
17.4.1: Assess Accuracy, Precision, and Sensitivity		
17.4.2: Confusion Matrix in Practice		
Support Vector Machines		
☐ 17.5.1: Overview of Support Vector Machines		
17.5.2: SVM in Practice		
Data Preprocessing in Machine Learning		

17.6.1: Encode Labels With Pandas		
17.6.2: Encode Labels With Scikit-learn		
17.6.3: Create Custom Encoding		
17.6.4: Scale and Normalize Data		
Decision Trees		
17.7.1: Overview of Decision Trees		
17.7.2: Predict Loan Application Approval		
Ensemble Learning and Random Forests		
17.8.1: Overview of Ensemble Learning		
17.8.2: Predict Loan Applications		
17.8.3: Fit the Model, Make Predictions, and Evaluate Results		
Bagging and Boosting		
17.9.1: Bootstrap Aggregation		
17.9.2: Boosting		
17.9.3: Boosting in Practice		
Techniques to Resolve Class Imbalance		
17.10.1: Oversampling		

	17.10.2: Undersampling	
	17.10.3: Combination Sampling With SMOTEENN	
Application		
	Module 17 Challenge May 2 100 pts Submit	
	Module 17 Career Connection	

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	▼ Module 18: Unsupervised Machine Learning and Cryptocurrencies Prerequisites: Module 0: Getting Started		
Intr	Introduction to Module 18		
	18.0.1: Using Unsupervised Learning to Discover Unknown Patterns		
	18.0.2: Module 18 Roadmap		
	18.0.3: Getting Ready for Virtual Class		
	18.0.4: Unsupervised Learning and Crypto		
Supervised vs. Unsupervised Learning			
	18.1.1: Supervised Learning Recap		
	18.1.2: Unsupervised Learning		
	18.1.3: Types of Unsupervised Learning: Transformations and Clustering		
	18.1.4: Install Your Tools		

Data Preprocessing		
18.2.1: Steps for Preparing Data		
18.2.2: Pandas Refresher		
18.2.4: Data Selection		
18.2.6: Data Transformation		
Clustering and the K-means Algorithm		
Using the Elbow Curve to Find Centroids		
18.4.1: Elbow Curve		
18.4.2: Use the Elbow Curve		
Manage Data Features		
18.5.1: Dimensionality Reduction		
18.5.2: Principal Component Analysis		
18.5.3: Mean, Variance, and Covariance		

	18.5.4: Linear Transformations	
	18.5.5: PCA's Underlying Theory	
Hie	rarchical Clustering	
	18.6.1: Understanding Hierarchical Clustering	
	18.6.2: Dendrograms	
	18.6.3: Running Hierarchical Clustering	
	18.6.4: K-means vs. Hierarchical Clustering	
Apı	olication	
	Module 18 Challenge May 9 100 pts Submit	
	Module 18 Career Connection	

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✓ Module 19: Neural Networks and Deep Learning Models Prerequisites: Module 0: Getting Started Complete All Items Introduction to Module 19 Introduction to Module 19 19.0.1: The Rise of Machine Learning Image: Prerequisites: Module 0: Getting Started Introduction to Module 19 Introduction to Modu

Introduction to Neural Networks		
19.1.1: What Is a Neural Network?		
19.1.2: Perceptron, the Computational Neuron		
19.1.3: Make the Connections and Explore TensorFlow Playground		
Build Your First Neural Network		
19.2.1: Set Up the TensorFlow Pipeline		
19.2.2: Build a Basic Neural Network		
19.2.3: Train and Test a Basic Neural Network		
19.2.4: Nuances of Neural Networks on Nonlinear Numbers		
19.2.5: Create the Connective Tissue, the Multiple Neuron Neural Network		
19.2.6: Give Your Model a Synaptic Boost		
Prepare Your Neural Network Datasets		
19.3.1: Measure Twice, Model Once		
19.3.2: The Headache of Categorical Variables		
19.3.3: Practice Encoding Categorical Variables		
19.3.4: Span the Gap Using Standardization		
Dig Deeper Into Neural Networks		
19.4.1: Unleash the Hidden Potential of Neural Networks		

	19.4.2: Real Data, Real Practice Imports and Setup		
	19.4.4: Real Data, Real Practice Deep Learning Model Design		
Sel	ect the Best Model for Your Dataset		
	19.5.1: Whose Model Is It Anyway?		
	19.5.4: Random Forest Vs. Deep Learning Model		
Exp	port and Import Trained Models		
	19.6.1: Checkpoints Are Not Just for Video Games		
	19.6.2: For Best Results, Please Save After Training		
Apı	olication		
	Module 19 Challenge May 16 100 pts Submit		
	Module 19 Career Connection		
	Unit Assessment: Analytical Modeling and Big Data May 16 100 pts Submit		

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▼ Module 20: Final Project	Prerequisites: Module 0: Getting Started Complete All Items		
Introduction to the Group Project and Project Overview			
20.0.1: The End of the Beginn	ng		
20.0.2: Data Storytelling			
20.0.3: Collaboration			
20.0.4: Project Roadmap			
20.0.5: Getting Ready for Virtu	al Class		
20.0.6: Final Segment Rubric			
20.0.7: Work with Your Team			
First Segment: Sketch It Out			
20.1.1: First Segment Overvie	W		
20.1.2: Build Your Foundation			
20.1.3: First Segment Rubric			
20.1.5: Square Role			
20.1.6: Triangle Role			
20.1.7: Circle Role			
20.1.8: X Role			

Module 20 First Segment Project Deliverable May 16 100 pts	
Second Segment: Build the Pieces	
20.2.1: Overview	
20.2.2: Build the Pieces	
20.2.3: Second Segment Rubric	
20.2.5: Square Role	
20.2.6: Triangle Role	
20.2.7: Circle Role	
₹ 20.2.8: X Role	
Module 20 Second Segment Project Deliverable May 30 100 pts	
Third Segment: Plug It In	
₽ 20.3.2: Plug It In	
20.3.3: Third Segment Rubric	
20.3.4: Square Role	
20.3.5: Triangle Role	

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	20.3.7: X Role
	Module 20 Third Segment Project Deliverable Jun 6 100 pts
Fourth Segment: Put It All Together	
	20.4.1: Overview
==	20.4.2: Put It All Together
=	20.4.3: Fourth Segment Rubric
=	20.4.4: Square Role
	20.4.5: Circle Role
	20.4.6: Triangle Role
	20.4.7: X Role
	Module 20 Fourth Segment Project Deliverable Jun 9 100 pts Submit
Individual Self-Assessment	
	Module 20 Individual Self Assessment Deliverable Jun 9 10 pts

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Module 21: Course Wrap-Up
 Prerequisites: Module 20: Final Project
 Course Wrap-Up



21.0.1: Congratulations