Mod 1: Introduction to Data Analysis	
Content	Objective
1.1 Opportunities in Data Analysis	How do I know the field is exploding? What are the career paths? What will I be doing? What do I need to know?
1.2 Ethical Data Analysis	Controversial Uses of Data
Tutorial 1: 7,000 Jobs in August 2018	August 2018 LinkedIn compilation of 7,000 Analysis / Data Engineering / Data Science Jobs
1.3 The Ongoing Transformation of the Data Field	5 Specific Opportunities
1.4 Module Summary	Job Opportunities Example Datasets Tools Required Competencies you will master
Project 1: TED Talk on Health Statistics	Dynamic representation of statistical relationships

Mod 2: Spreadsheet Analysis	
Content	Objective
Portfolion Setup	Set up Google Drive Save Resume Learning Objectives from Mod 1 Experiment with Excel or gsheets Scan Kaggle & setup account Download Austin Bike Share
2.1 Spreadsheets for Analysis 2 Scenarios	Marketing and Sales Analysis Project Planning
2.2 Spreadsheet concepts	Filtering and Sorting Columns Equations to summarize rows or columns Pivot Tables for summaries
Tutorial 2: Marketing & Sales Analysis	Marketing Analysis using Functions and Pivot Tables
2.3 Statistics, Charts, and Examining Data Quality	Mean, Standard Deviation Distributions (visual) Missing Data and Outliers Charting
Tutorial 3: Duration Statistics on Austin Bike Share	Analysis of Austin Bike Share with Filters, Pivot Tables, Statistics, and Charts
From the Workplace: The New Electricity	Dr. Ngs AI Talk to the Standford Business School with questions on how to enter the field.
2.4 Mastering Spreadsheets	10 Minutes to Spreadsheet Mastery
Project 2: Analysis of Ride duration and distance	Analysis with Spreadsheets

Mod 3: Reproducable Analysis & Research	
Content	Objective
Portfolion Notebook & Libraries	Exam colab Cloud environment Understand a Notebook Loading Python Libraries
From the Workplace: Machine Learning at Google	How committed is GAFA {Google, Apple, Facebook, Amazon} to ML? Google's commitment.
3.1 Just enough Python	Declarative statements {For, While} Functions Dictionary and List Comprehensions
Tutorial 4: Control Flow Mathematical & Statistical Calculations	Control using {if // elif // else} Control using for and while loops
3.2 Pandas & Numpy Libraries	Import, Transform and Interpret Data Mathematical & Statistical Calculations
Tutorial 5: Visualization	Mplotlib & Seaborn Libraries for visualization
3.3 SQL (Structured Query Language)	Inputing and Retrieving with SQL. Relational Databases and their Descendents NoSQL
3.4 Mastering Python Libraries for Analysis on Big Data on the Cloud	10 Minutes to Big Data Mastery on the Cloud
Project 3: Exploratory Statistical Analysis	End to end Analysis from data load to Analysis to Presentation

Mod 4: Developing You as a Respected Analyst	
Content	Objective
Portfolio Forecasting & Statistical Tools	scikit-learn library springboard to Machine Learning (ML)
4.1 Mastering an Approach to Analysis	Have we Achieved the Goals of this Course? What Next?
4.2 Statistical approaches to Analysis	Introducing R: Comprehensive Statistical Language with over 10,000 Libraries
A touch of Diversion, a spot of Motivation, and a dose of Fun	Machine Learning meets Star Wars. Marquis de Laplace 'weighs' Saturn
4.3 Linear Regression an Introduction to Econometics and Machine Learning	Estimating the coefficients Measures of Fit Assumptions
Tutorial 6: Machine Learning to Forecast Housing Prices	Another perspective on Forecasting
4.4 Executing Business Forecasts using Time Series	Forecasting Inventory & Sales
4.5 Supporting your Conclusions	Presenting and Supporting Conclusions through Visualization, Narrative, and Statistics
From the workplace: Geoffrey Hinton – The Foundations of Deep Learning	Dr. Hinton persisted in AI and Neural Networks when they were abandoned. He and his team broke through on Image Recognition
Project 4: Predicting House Prices on Variables	How good is linear regression? What are the alternatives?

Mod 5: Time-Boxed Critical Analysis	
Content	Objective
5.0 On the Precipe of Transformative Technologies	10 Minutes on what we accomplished and where this leads
Presented with a verbal assignment from senior management Investigate and Make Preliminary Recommendations	The challenge is unclear requirements, a rapidly evolving technology and little time. Colaboration mitigates the time presure.
Machine Learning: Google's Vision	https://www.youtube.com/watch?v=Rnm83GqgqPE
https://aitube.io/video/28-min-geoffrey-hinton-foundations-deep-learning/	
Neural Networks: Andrew Ng interviewing Geoffrey Hinton	https://www.youtube.com/watch?v=Zhzk8SCxaMk