**1. Introduction to Course**

* Overview of the course structure and objectives
* Introduction to the field of machine learning, data science and its applications
* Required tools and software installations

**2. Python Basics**

* Python syntax and fundamentals
* Variables, data types, and basic operators
* Control structures: loops and conditionals
* Functions, modules, class and error handling

**3. Pandas and Numpy**

* Introduction to Pandas: DataFrames and data manipulation
* NumPy for numerical operations
* Data cleaning and preparation techniques

**4. Data Visualization and Analysis**

* Data visualization with Matplotlib and Seaborn
* Exploratory data analysis techniques
* Basic statistical analysis and interpretation of data

**5. Machine Learning**

* Supervised learning: regression and classification algorithms
* Unsupervised learning: clustering and dimensionality reduction
* Model evaluation and selection techniques
* Introduction to scikit-learn for model building
* Different regression and classification algorithms

**6. Deep Learning**

* Neural network fundamentals
* Introduction to deep learning frameworks like TensorFlow or Keras
* Building and training basic neural networks
* Overview of advanced models like CNNs and RNNs
* Overfit and underfit
* Regularization in deep learning

1. **Text Mining and Introduction to NLP**

* Basics of text processing and text mining
* Web scraping with scrappy/selenium/beautiful soup
* Introduction to Natural Language Processing (NLP)
* Basic NLP tasks and techniques (tokenization, stemming, etc.)
* Sentiment analysis and text classification

**8. Version Control using Git**

* Basics of version control
* Git commands and workflows
* Collaborating on projects using GitHub

**9. Concept of API**

* Understanding APIs and their importance
* Making API calls and handling responses
* Practical examples of using APIs for data collection or integration

**Additional Course Components**

**Practical Assignments:** To reinforce learning with real-world applications.

**Capstone Project:** Integrating various aspects learned throughout the course.

**Online Resources:** Providing a list of recommended reading, tutorials, and online courses for further learning.