**RMPI Training Syllabus**

Git & GitHub

Elements of Professional Code

Setup

Source Control with Git and GitHub

Write it up with Markdown

Professional Code

Communicate With Code

Consistency and Naming

Code Refactoring

Clean up Variables and Strings

Simplify

Final Updates

Python

Getting Started with Data Science

Data Science: Generating Value From Data

The Data Science Process

Background in Python and Unix

Week Introduction

Python: Basics

Python: Key Data Structures

UNIX

Jupyter Notebooks and Numpy

Jupyter Notebooks

Numpy

Satellite Image Application in numpy

Pandas

Working with Pandas

Data Visualization

Introduction to Data Visualization

Matplotlib and Other Libraries

Case Studies

Introduction to Machine Learning

Introduction to Machine Learning

Classification

Clustering

Regression Analysis

Working with Text and Databases

Working With Databases

Natural Language Processing with NLTK

Twitter - Working with Text

Web Application Technologies and Django

Introduction to Dynamic Web Content

Why Django?

Introduction to Dynamic Web Content

Network Sockets and Connections

HyperText Transfer Protocol

Building a Simple Web Browser in Python

Building a Simple HTTP Server in Python

Walkthrough: Browser Developer Mode

Hypertext Markup Language

HTML - HyperText Markup Language

HTML - Code Walkthrough

Cascading Style Sheets

CSS - Cascading Style Sheets

Code Walkthrough: CSS

Introducing Structured Query Language (SQL)

How Databases Work

Introduction to Structured Query Language (SQL)

Walkthrough: Basic SQL

Building Web Applications in Django

Data Models

Understanding Model View Controller (MVC)

Django Data Models

Django Migrations

Walkthrough: Using a Django Model in the Shell

Resetting Your Sqlite3 Database

Django Views

URL Routing in Django

Django Views

Inside Django Views and HTML Escaping in Django

Using Templates in Django

The Django Template Language (DTL)

Inheritance in Django Templates

Reversing Django Views and URLs

Django Generic Views

Python Objects

Django Generic Views

Forms in HTTP and HTML

Forms, GET, POST, and HTTP

Building HTML Forms

Forms and Cross Site Request Forgery (CSRF)

CSRF Support in Django

The POST Refresh Pattern

Implementing POST Redirect in Django

Django Features and Libraries

Cookies and Sessions

Welcome to the Course

Cookies and Sessions

Django Sessions

Users and Authentication

Creating and Managing Users in Django

Login and Logout URLs in Django

Using Django Login in Views

Django Forms

Using Django Forms Capabilities

Data Validation with Django Forms

One to Many Data Models

Removing Replication in One-to-Many Models

Storing Primary and Foreign Keys in a Database

Representing One-To-Many Models in Django

Using the Django Shell to Explore One-to-Many Models

Owned Rows

Owned Rows in Django - Overview

Owned Rows in Django - Generic Views Review

Many-to-Many Models

A Simple Many-To-Many Example in Django

Many-To-Many Data Models for Courses and Membership

Building a Django Batch Script to Load Data from CSV

**Android Basics**

Building Layouts

• Create the basic structure of a single-screen app by placing layouts on a page and integrating images, buttons, and text.

• Group layouts to allow for more creativity and variation in your design.

User Input

• Create interactive layouts utilizing buttons.

• Continue practicing creating an interactive user experience.

• Create an object in Java and call methods on that object

• Use booleans, conditions and relational operators, and practice adding intents and styles to your app