RC 1334488
PLATFORM LEAD
LIMITED

PLATFORM LEAD
ICT SOLUTIONS

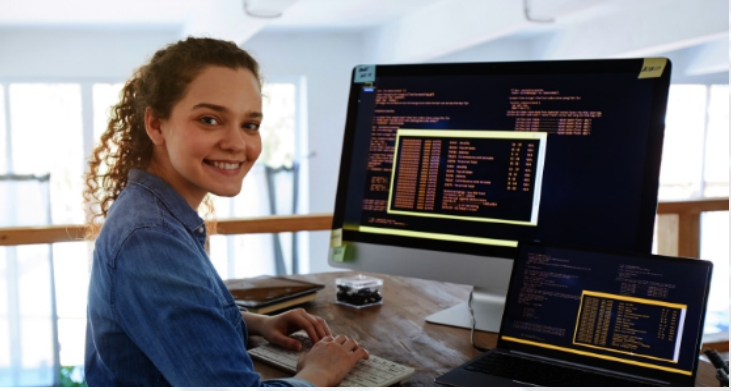
ICT TRAINING SYLLABUS

4, Olubi, street, Off Kunle Abass Street,
Bodija, Ibadan, Oyo State, Nigeria.

+234 701 161 7371

Email: info@plitsolutions

www.plitsolutions.com



PYTHON TRAINING SYLLABUS

Python Training Syllabus

1. Python Overview
2. Python3.xSimple Basics
3. Core Python & OOP Design
   - Comprehensions
   - Decorators,
   - Context-Managers,
   - Errors and Exception Handling,
   - File I/O
   - Introspection
   - OOP Design Patterns and SOLID Principles
4. Understanding Data Structure and Algorithm
5. Desktop Application Development (GUI) With Python
6. Introduction to data science
7. Web development using Django
   - SQL, ORM, Database
   - Django Framework
   - Authentication and Authorization
   - Identity Access Management
   - Continuous Integration and Deployment
8. API Development with Django
   - API Designs
   - API Testing
   - Postman
   - Docker and Docker-compose,
   - Documentation & Deployment

9 Projects and Career Path

- Client Project
- Solving FAANG (Facebook, Amazon, Apple, Netflix and Google) Interview Questions
- Career profile review
- Monetizing Your skill
- Student Final Project Submission and Defense

FRONT END DEVELOPMENT SYLLABUS

1. Introduction and Overview of frontend development
2. Installations And Frontend Extensions
3. Wire frame design with photoshop
4. Introduction to UI design with Figma
5. Basic HTML
6. Advanced to HTML
7. Basic CSS
8. Advanced CSS
9. HTML And CSS Project
10. Deploy HTML CSS on cPanel
11. Understanding Git and GitHub
12. Bootstrap 5
13. Bootstrap Project
14. Tailwind
15. Introduction to JavaScript
16. Advanced JavaScript & ECMAScript 6 – 10
17. Typescript
18. React Js
19. React Js Projects and Deployment
20. Redux
21. Next Js
22. Next Js Projects and Development
23. Understanding Data Structure and Algorithm
24. Solving FAANG (Facebook, Amazon, Apple, Netflix and Google) Interview Questions
25. Monetizing Your skill
26. Student Final Project Submission and Defense

BACK END DEVELOPMENT SYLLABUS

1. CSS and Website Layout
   - HTML
   - CSS
   - Flexbox
   - CSS Grid
   - Responsive Layout
2. JavaScriptand the DOM
   - Syntax
   - Arrays
   - Objects
   - Functions
   - DOM
   - Browser Events
   - Performance
3. Web APIs and Asynchronous Applications
   - HTTP Request and Routes
   - Asynchronous JavaScript
4. Object Oriented JavaScript
   - Objects in Depth
   - Functions at Runtime
   - Classes and Objects
   - Object Oriented Design Patterns
   - YAGNI, KISS and DRY, SOLID Principles

5. Build Tools
   - Build Tools, Webpack, Sass and Webpack
6. Backend Development with Node.js
   - Getting started with Node.js
   - Developing with Typescript
   - Express Framework
   - Node inbuilt APIs
   - Creating an API with Express
   - Authentication and Authorization
   - Streams,
   - Introduction to TDD
   - Design Patterns,
   - Building a Server
7. SQL & Non SQL Databases
   - Databases and SQL,
   - Creating an API with Postgres connection,
   - SQL for advanced API functionality
   - MongoDB and Mongoose ODM
8. Front End Framework
   - Introduction to Client-Side Rendering and React
   - React Hooks and State management
   - React Routing
   - Basic Webpack
   - Consuming API
   - Frontend Testing
   - End to End Testing, Project
9. DEVOPS
   - Junit,
   - Integration testing,
   - JWT Authentication,
   - Containerization using Docker
   - Servers
   - AWS
   - Orchestration using K8
   - CICD
10. Backend With PHP
   - fundamental of PHP Development
   - Various Data Types
   - Advanced PHP Functions
   - Classes
   - Objects
   - Advanced OOPS in PHP
   - Various Database concepts
   - Cookies and Session Management
   - How to work with forms and system files
   - Error Handling
   - Secure PHP Programming
   - Performance Optimization of PHP Applications
   - AJAX
   - PHP Project

11 Deployment Process
   - Setting up a Production Environment,
- Interact with Cloud Services
- Write Scripts for Web Application, Configure and document a pipeline
- Deploy backends with Heroku.
- Deploy Backend with AWS.

12. Projects and Career Path
   - Client Project
   - Career profile review
   - Monetizing Your skill
   - Student Final Project Submission and Defense

MOBILE APP DEVELOPMENT SYLLABUS

1. UNDERSTANDING JAVASCRIPT

- JavaScript Fundamentals
- Modern JavaScript concepts.
- Advance JavaScript And ECMAScript 6

2. GETTING STARTED

- Installing React Native
- iOS Setup – Xcode
- Android Setup – Android Studio
- Setup Simulator
- Run an example project in iOS and Android simulator
- Hello World

3. UNDERSTANDING REACT

JSX, hooks, Elements, Working with components, User Inputs, events, conditional Rendering, Lists and Keys.

4. MOBILE DEVELOPMENT WITH REACT NATIVE

- React Native Workflow
- Understanding Expo
- Core components
- Making components interactive with TouchableHighlight
- Displaying data with ListView
- Changing screens with Navigator
- Expanding touch capability with GestureResponder and Pan Responder
- Styling And Layout.
- Create Immutable style objects with Stylesheet.create
- Pass styles as props
- Positioning components with flexbox
- Flexbox for Native Layouts
- Styling React Native Apps

5. ADVANCED MOBILE DEVELOPMENT WITH REACT NATIVE

Navigation, Native Features, Networking, Notifications Testing, debugging.

6. STATE AND DATA MANAGEMENT

- Using fetch to retrieve data
- Getting a user's location and handling permissions
- Accessing stored photos with CameraRoll
- Async and Secure Storage
- Context & Redux,
- Offline Support.

7. FIREBASE

- Authentication with firebase
- Firebase Client Setup
- Login Form Scaffolding
- Handling User Inputs
- Wrapping up Inputs
- Password Inputs
- Firebase storage
- Realtime storage

8. AUTHENTICATION IN REACT NATIVE

-Authentication and authorization using Formik
- Handling Authentication Events
-More on Conditional Rendering
-Logging a User Out and Wrapup

9. CLASS PROJECTS

- Ecommerce App
- A Dating App
- Social media chatting App

10. DEPLOYMENT & PUBLISHING

- Deploying to Apple App Store
- Deploying to Android Play Store

11. UNDERSTANDING DATA STRUCTURE

and Algorithm
-Solving FAANG (Facebook, Amazon, Apple, Netflix and Google) Interview Question

12. PROJECTS AND CAREER PATH

-Client Project
-Career profile review
-Monetizing Your skill
-Student Final Project Submission and Defense

DATA SCIENCE TRAINING SYLLABUS

PYTHON & STATISTICS

Module 1: Introduction to Data Science

- Selecting rows/observations
- Rounding Number
- Selecting columns/fields
- Merging data
- Data aggregation
- Data munging techniques

Module 2: Python Basics

- Python Basic Data types
- Lists
- Slicing
- IF statements
- Loops
- Dictionaries
- Tuples
- Functions
- Array
- Selection by position & Labels

Module 3: Python Packages

- Pandas
- Numpy
- Sci-kit Learn
- Mat-plot library

Module 4: Importing Data

- Reading CSV files
- Saving in Python data
- Loading Python data objects
- Writing data to CSV file

Module 5: Manipulating Data

- Selecting rows/observations
- Rounding Number
- Selecting columns/fields
- Merging data
- Data aggregation
- Data munging techniques

Module 6: Statistics Basics

- Central Tendency
- Mean
- Median
- Mode
- Skewness
- Normal Distribution
- Probability Basics
- What does it mean by probability?
- Types of Probability
- ODDS Ratio?
- Standard Deviation
- Data deviation & distribution
- Variance
- Bias variance Tradeoff
- Underfitting
- Overfitting
- Distance metrics o Euclidean Distance
- Manhattan Distance
- Outlier analysis
- What is an Outlier?
- Inter Quartile Range
- Box & whisker plot
- Upper Whisker
- Lower Whisker
- Scatter plot
- Cook's Distance
- Missing Value treatment
- What is NA?
- Central Imputation
- KNN imputation
- domification
- Correlation
  - o Pearson correlation
  - o positive & Negative correlation

Module 7: Error Metrics

- Classification
  - o Confusion Matrix
  - o Precision
  - o Recall
  - o Specificity
  - o F1 Score
- Regression
  - o MSE
  - o RMSE
  - o MAPE

MACHINE LEARNING

Module 1: Supervised Learning

- Linear Regression
  - o Linear Equation
  - o Slope
  - o Intercept
  - o R square value

- Logistic regression
  - o ODDS ratio
  - o Probability of success
  - o Probability of failure Bias

Variance Tradeoff
- o ROC curve
- o Bias Variance Tradeoff

Module 2: Unsupervised Learning
- K-Means
- K-Means ++
- Hierarchical Clustering

Module 3: SVM
- Support Vectors
- Hyperplanes
- 2-D Case
- Linear Hyperplane

Module 4: SVM Kernal
- Linear
- Radial polynomial

Module 5: Other Machine Learning Algorithms
- K – Nearest Neighbour
- Naïve Bayes Classifier
- Decision Tree – CART
- Decision Tree – C50
- Random Forest

ARTIFICIAL INTELLIGENCE

Module 1: AI Introduction
- Perceptron
- Multi-Layer perceptron
- Markov Decision Process
- Logical Agent & First Order Logic
- AL Applications

DEEP LEARNING

Module 1: Deep Learning Algorithms
- CNN – Convolutional Neural Network

RNN – Recurrent Neural Network ANN – Artificial Neural Network

Module 2: Introduction to NLP
- Text Pre-processing
- Noise Removal
- Lexicon Normalization
- Lemmatization
- Stemming
- Object Standardization

Module 3: Text to Features(Feature Engineering)
- Syntactical Parsing
- Dependency Grammar
- Part of Speech Tagging
- Entity Parsing
- Named Entity Recognition
- Topic Modelling
- N-Grams
- TF – IDF
- Frequency / Density Features
- Word Embedding's

Module 4: Tasks of NLP
- Text Classification
- Text Matching

Levenshtein Distance
Phonetic Matching
Flexible String Matching

TABLEAU

Module 1: Tableau Course Material
- Start Page
- Show Me
- Connecting to Excel Files
- Connecting to Text Files
- Connect to Microsoft SQL Server
- Connecting to Microsoft Analysis Services
- Creating and Removing Hierarchies
- Bins
- Joining Tables
- Data Blending

Module 2: Learn Tableau Basic Reports
- Arameters
- Grouping Example 1
- Grouping Example 2
- Edit Groups
- Set
- Combined Sets
- Creating a First Report
- Data Labels
- Create Folders

- Sorting Data
- Add Totals, Subtotals and Grand Totals to Report

Module 3: Learn Tableau Charts
- Area Chart
- Bar Chart
- Box Plot
- Bubble Chart
- Bump Chart
- Bullet Graph
- Circle Views
- Dual Combination Chart
- Dual Lines Chart
- Funnel Chart
- Traditional Funnel Charts
- Gantt Chart
- Grouped Bar or Side by Side Bars Chart
- Heatmap
- Highlight Table
- Histogram
- Cumulative Histogram
- Line Chart
- Lollipop Chart
- Pareto Chart
- Pie Chart
- Scatter Plot
- Stacked Bar Chart
- Text Label
- Tree Map
- Word Cloud
- Waterfall Chart

Module 4: Learn Tableau Advanced Reports
- Dual Axis Reports
- Blended Axis
- Individual Axis
- Add Reference Lines
- Reference Bands
- Reference Distributions
- Basic Maps
- Symbol Map
- Use Google Maps
- Mapbox Maps as a Background Map
- WMS Server Map as a Background Map

Module 5: Learn Tableau Calculations & Filters
- Calculated Fields
- Basic Approach to Calculate Rank
- Advanced Approach to Calculate Ra
- Calculating Running Total
- Filters Introduction
- Quick Filters
- Filters on Dimensions
- Conditional Filters
- Top and Bottom Filters
- Filters on Measures
- Context Filters
- Slicing Fliters
- Data Source Filters
- Extract Filters

Module 6: Learn Tableau Dashboards
- Create a Dashboard
- Format Dashboard Layout
- Create a Device Preview of a Dashboard
- Create Filters on Dashboard
- Dashboard Objects
- Create a story

Module 7: Server
- Tableau online.
- Overview of Tableau
- Publishing Tableau objects and scheduling/subscription.

SQL

Introduction to Database
- List the features of Oracle Database 11g
- Discuss the basic design, theoretical, and physical aspects of a relational database
- Categorize the different types of SQL statements
- Describe the data set used by the course
- Log on to the database using SQL Developer environment
- Save queries to files and use script files in SQL Developer

Retrieve Data using the SQL SELECT Statement
- List the capabilities of SQL SELECT statements
- Generate a report of data from the output of a basic SELECT statement
- Select All Columns
- Select Specific Columns
- Use Column Heading Defaults
- Use Arithmetic Operators
- Understand Operator Precedence
- Learn the DESCRIBE command to display the table structure

Learn to Restrict and Sort Data
- Write queries that contain a WHERE clause to limit the output retrieved
- List the comparison operators and logical operators that are used in a WHERE clause
- Describe the rules of precedence for comparison and logical operators
- Use character string literals in the WHERE clause
- Write queries that contain an ORDER BY clause to sort the output of a SELECT statement •

Sort output in descending and ascending order

Usage of Single-Row Functions to Customize Output
- Describe the differences between single row and multiple row functions
- Manipulate strings with character function in the SELECT and WHERE clauses
- Manipulate numbers with the ROUND, TRUNC, and MOD functions
- Perform arithmetic with date data
- Manipulate dates with the DATE functions

Invoke Conversion Functions and Conditional Expressions
- Describe implicit and explicit data type conversion
- Use the TO_CHAR, TO_NUMBER, and TO_DATE conversion functions
- Nest multiple functions
- Apply the NVL, NULLIF, and COALESCE functions to data
- Use conditional IF THEN ELSE logic in a SELECT

Aggregate Data Using the Group Functions
- Use the aggregation functions in SELECT statements to produce meaningful reports
- Divide the data into groups by using the GROUP BY clause
- Exclude groups of date by using the HAVING clause

Display Data from Multiple Tables Using Joins
- Write SELECT statements to access data from more than one table
- View data that generally does not meet a join condition by using outer joins
- Join a table by using a self-join

Use Subqueries to Solve Queries
- Describe the types of problem that subqueries can solve
- Define sub-queries
- List the types of sub-queries

The SET Operators
- Describe the SET operators
- Use a SET operator to combine multiple queries into a single query
- Control the order of rows returned

Data Manipulation Statements
- Describe each DML statement
- Insert rows into a table
- Change rows in a table by the UPDATE statement
- Delete rows from a table with the DELETE statement
- Save and discard changes with the COMMIT and ROLLBACK statements
- Explain read consistency

Use of DDL Statements to Create and Manage Tables
• Categorize the main database objects
• Review the table structure
• List the data types available for columns
• Create a simple table
• Decipher how constraints can be created at table creation
• Describe how schema objects work

Other Schema Objects
• Create a simple and complex view
• Retrieve data from views
• Create, maintain, and use sequences
• Create and maintain indexes
• Create private and public synonyms

Control User Access
• Differentiate system privileges from object privileges
• Create Users
• Grant System Privileges
• Create and Grant Privileges to a Role
• Change Your Password
• Grant Object Privileges • How to pass on privileges?
• Revoke Object Privileges

Management of Schema Objects
• Add, Modify and Drop a Column
• Add, Drop and Defer a Constraint
• How to enable and Disable a Constraint?
• Create and Remove Indexes
• Create a Function-Based Index
• Perform Flashback Operations
• Create an External Table by Using ORACLE_LOADER and by Using ORACLE_DATAPUMP
• Query External Tables

Manage Objects with Data Dictionary Views
• Explain the data dictionary
• Use the Dictionary Views
• USER_OBJECTS and ALL_OBJECTS Views
• Table and Column Information
• Query the dictionary views for constraint information
• Query the dictionary views for view, sequence, index, and synonym information
• Add a comment to a table
• Query the dictionary views for comment information

Manipulate Large Data Sets
• Use Subqueries to Manipulate Data
• Retrieve Data Using a Subquery as Source
• Insert Using a Subquery as a Target
• Usage of the WITH CHECK OPTION Keyword on DML Statements
• List the types of Multitable INSERT Statements
• Use Multitable INSERT Statements
• Merge rows in a table

Data Management in Different Time Zones
- Time Zones
- CURRENT_DATE, CURRENT_TIMESTAMP, and LOCALTIMESTAMP
- Compare Date and Time in a Session's Time Zone
- DBTIMEZONE and SESSIONTIMEZONE
- Difference between DATE and TIMESTAMP
- INTERVAL Data Types
- Use EXTRACT, TZ_OFFSET, and FROM_TZ
- Invoke TO_TIMESTAMP, TO_YMINTERVAL and TO_DSINTERVAL

Retrieve Data Using Sub-queries
- Multiple-Column Subqueries
- Pairwise and Non Pairwise Comparison
- Scalar Subquery Expressions
- Solve problems with Correlated Subqueries
- Update and Delete Rows Using Correlated Subqueries
- The EXISTS and NOT EXISTS operators
- Invoke the WITH clause
- The Recursive WITH clause

Regular Expression Support
- Use the Regular Expressions Functions and Conditions in SQL
- Use Meta Characters with Regular Expressions
- Perform a Basic Search using the REGEXP_LIKE function
- Find patterns using the REGEXP_INSTR function
- Extract Substrings using the REGEXP_SUBSTR function
- Replace Patterns Using the REGEXP_REPLACE function
- Usage of Sub-Expressions with Regular Expression Support
- Implement the REGEXP_COUNT function

GRAPHICS AND MULTIMEDIA SYLLABUS

Adobe Photoshop
- Basic Photo Correction
- Typographic Design
- Graphics Design with Photoshop
- Photo Editing with Photoshop

Corel Draw
- Design, Layout and photos
- Mastering Logo Design
- Creator vector graphics

Adobe Illustrator

Adobe Premiere Pro
- Color grading
- Layering and Sequencing
- Editing With Premiere

Adobe After Effect
- Video Effects
- Motion graphics Design
- Kinetic Typography
- Introduction to VFX

The Art Of Branding
Introduction To Unreal Engine 5
Monetizing Your Skill
Student Final Project Submission and Defense

UI/UX SYLLABUS

01. INTRODUCTION
What is UI/UX Design,
product design
core software
Interpreting Project Briefs

02. USER EXPERIENCE DESIGN
Design Thinking
Survey Questions
Empathy Map

User Persona
Competitor Analysis/Research
User Story/User Journey Map
Sitemap,
Low And High Fidelity User-flow
Wire-flow
UX Design Specialties.

03. USER INTERFACE DESIGN
- UI Elements
- Design Systems
- Web And Mobile App Layouts
- Low And High Fidelity Wireframe
- Mock-up
- Prototyping. Software: Figma & Adobe XD

04. UI DESIGN PRINCIPLE
- Alignment, Contrast, Hierarchy, Balance, Spacing, Consistency, Typography, Iconography, Color Theory, Image Selection Etc.

05. MOCK-UP IN PHOTOSHOP
- Online Mock-up Tools, Photoshop Workspace, Basic Tools, Downloading And Using Mock-up, Design Presentation

06. PORTFOLIO BUILDING
- Recommended Project, Where To Host Portfolios, Case Studies, Portfolio Organization Process.

07. Monetizing Your Skill
- Freelancing, Job Hunting, Networking

08. Project Submission

IELTS

- General IELTS
- Academic IELTS
- Listening
- Speaking
- Reading
- Writing

DIGITAL MARKETING

1. Introduction to Digital Marketing
2. Website Planning and Creation
3. Search Engine Optimisation (SEO)
4. Search Engine Marketing
5. Social Media Marketing
6. Content Marketing & Strategy
7. Web Analytics
8. Digital Media Planning and Buying
9. Web Remarketing
10. Email Marketing
11. Design Essentials
12. Mobile Marketing
13. E-Commerce Management
14. Online Reputation Management
15. Adsense, Blogging
16. Video Marketing
17. Introduction to Affiliate Marketing