IrizPro
Inspire Excellence

DATA SCIENCE

ABOUT US

Irizpro Training Institute operates in Pune, often referred to as the Oxford of the East. We are an IT training service provider conducting training programs across various software fields and offering certifications for individuals and organizations. Our team comprises fully qualified and experienced professionals dedicated to delivering high-quality training

Irizpro Training Institute is connected with over 600 reputed IT companies, where we have successfully placed our candidates. Hundreds of our satisfied students are now working in well-reputed MNCs such as Bajaj, Accenture, Capgemini, L&T Infotech, Siemens, TCS, Wipro, as well as many mid-level companies like Allure, Datamatica, Mindbody, Scalable, Scatterpie, Clinivantage, Square Yards, and many more.
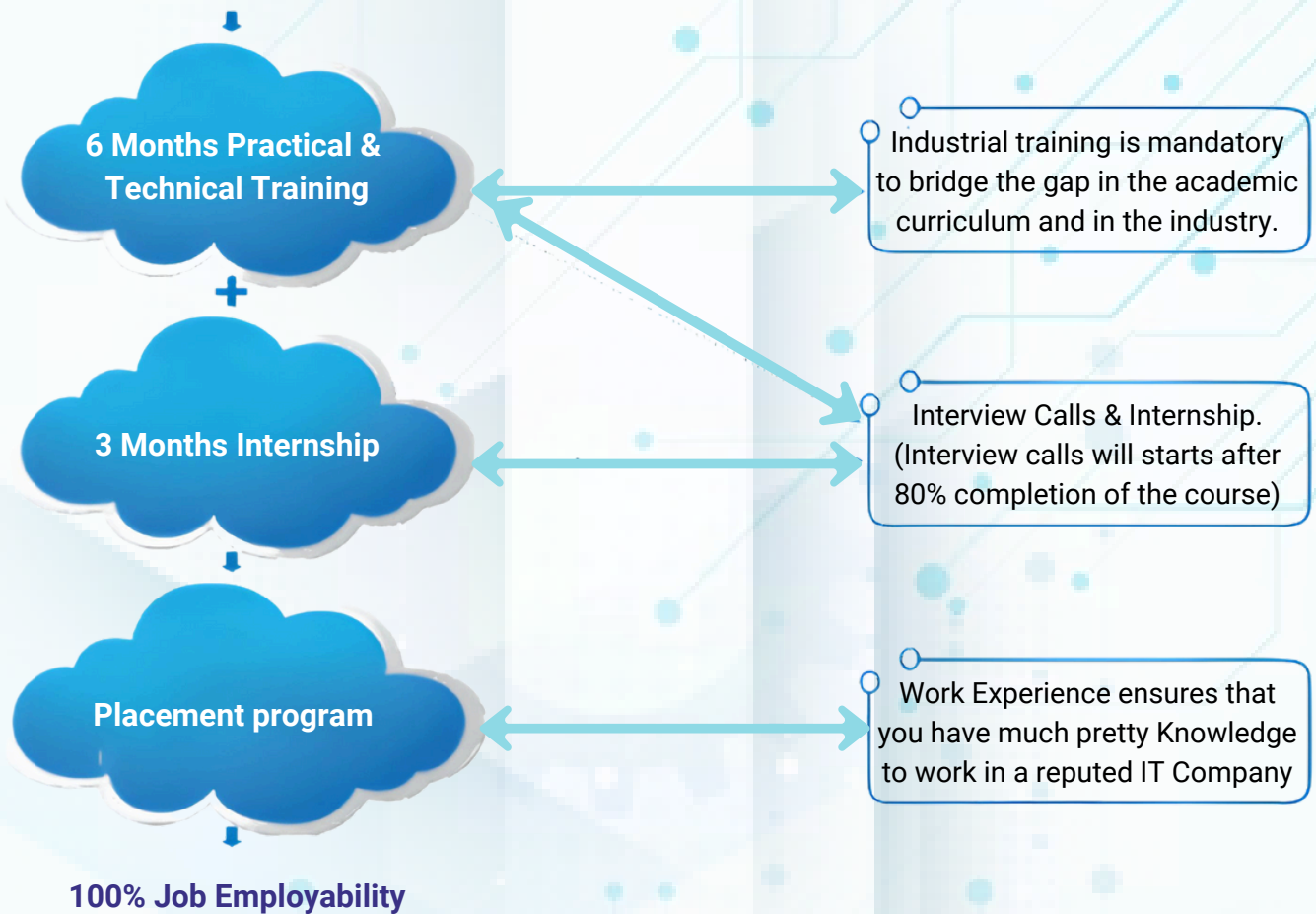
Education Partners

aws · Google Microsoft

CompTIA #startupindia

Data Analytics

IrizPro

Inspire Excellence

Our Process & Methodology:

IRIZPRO PROCESS

- Placement
- Counselling & Guidance
- Technical Training
- Industrial Live Project Experience
- Softskill Training & Interview Preparation

IrizPro
Inspire Excellence

PROGRAM FLOW

6 Months Practical & Technical Training

+

3 Months Internship

Placement program

100% Job Employability

Industrial training is mandatory to bridge the gap in the academic curriculum and in the industry.

Interview Calls & Internship. (Interview calls will starts after 80% completion of the course)

Work Experience ensures that you have much pretty Knowledge to work in a reputed IT Company

UNIQUE FEATURES

- **Live Class Recording**
- **Complete Practical Oriented Training**

DATA SCIENCE

Advanced Excel Syllabus

Module 1: Excel Basics

- Understanding the basic spreadsheet
- Essential formula knowledge
- Absolute and relative cells
- Protecting and un-protecting worksheets and cells

Module 2: Sorting and Filtering Data

- Sorting tables
- Using multiple-level sorting
- Using custom sorting
- Filtering data for a selected view (AutoFilter)
- Using advanced filter options

Module 3: Data Validations and Conditional Formatting

- Specifying a valid range of values for a cell
- Specifying a list of valid values for a cell
- Specifying custom validations based on a formula for a cell
- Applying conditional formatting to highlight and format cells based on certain conditions

Module 4: Data manipulation and analysis using advanced functions and formulas

- Writing conditional expressions (using IF)
- Using logical functions (AND, OR, NOT)
- Using lookup and reference functions (VLOOKUP, HLOOKUP, MATCH, INDEX)
- VLOOKUP with Exact Match, Approximate Match
- Nested VLOOKUP with Exact Match - VLOOKUP with Tables, Dynamic Ranges
- Nested VLOOKUP with Exact Match
- Using VLOOKUP to consolidate data from multiple sheets

COURSE CURRICULUM

5. Advanced data visualization techniques

- Creating interactive charts, graphs.
- Using data bars, color scales, and icon sets for conditional formatting.
- Utilizing slicers and timelines to filter and analyze data.

Module 5: Working with PivotTable and PivotChart

-Creating multi-level PivotTables
-Advanced PivotTable features (slicers, timelines, etc.)
-Custom calculated fields in PivotTables
-Creating Pivot Charts from PivotTables

Module 6: Data Transformation with Power Query

-Introduction to Power Query
-Merging and appending queries
-Advanced data cleaning and shaping
-Managing query connections and transformations

Module 7: Data Modelling with Power Pivot

-Introduction to Power Pivot
-Data modeling principles
-Creating relationships between tables
-Using DAX (Data Analysis Expressions) functions

Module 8: Automation with Macros

-Recording and editing macros

COURSE CURRICULUM

Power BI Syllabus

1. Introduction to Power BI

-Overview of Power BI and its features
-Installation and setup
-Getting started with Power BI Desktop and Power BI Service
-Connecting to data sources.

2. Data Transformation using Power Query

- Importing and transforming data from various sources.
- Data cleaning and shaping
- Data loading and transformation using Power Query
- Creating relationships between tables.
- Applying data shaping techniques using Power Query

3. Advanced Data Modelling

-Relationships in Power BI
-Introduction to DAX (Data Analysis Expressions)
-Creating calculated columns and measures
- Writing DAX measures for aggregations and calculations.
- Building data models

4. Creating interactive visualizations and reports

- Building visualizations like charts, graphs, and maps.
- Designing reports with multiple pages and layouts.
- Adding interactivity and drill-through functionality to reports.

COURSE CURRICULUM

5. Designing and publishing dashboards

- Creating dashboards to display key insights and visualizations.
- Adding tiles, images, and other elements to dashboards.
- Publishing and sharing dashboards with others.

6. Implementing data security and sharing options

- Applying security roles and managing user access.
- Sharing reports and dashboards with individuals or groups.
- Configuring row-level security for data restrictions

7. Real-world Projects and Case Studies

- Applying Power BI to real business scenarios
- Working on projects and solving data analysis challenges
- Creating interactive dashboards and reports
- Presentation and documentation of projects

COURSE CURRICULUM

Python

Module 1: Introduction to Python

-Understanding Python
-Setting up a Python development environment (IDEs, text editors, Python installations)
-Your first Python program (Hello World)
-Python's syntax and indentation
-Variables and data types (int, float, str, bool)
-Basic input and output

Module 2: Control Flow and Conditional Statements

-Conditional statements (if, elif, else)
-Comparison operators
-Logical operators (and, or, not)
-Nested conditions
-Ternary conditional expressions
-Loops (for and while)
-Iterating through sequences (lists, strings)

Module 3: Data Structures

-Lists and their operations
-Tuples and immutability
-Dictionaries and key-value pairs
-Sets and their unique elements
-List comprehensions
-Manipulating data structure
-Slicing and indexing

COURSE CURRICULUM

Module 4: Introduction to Databases and SQL

Defining and calling functions
-Function parameters and return values
-Scope and lifetime of variables
-Built-in functions (e.g., len, range)
-Function Arguments
-Lambda Functions
-Functions as First-Class Citizens

Module 5: Object-Oriented Programming (OOP)

-Introduction to OOP
-Classes and Objects
-Inheritance and Polymorphism
-Encapsulation and Abstraction
-Special Methods (Magic Methods)

Module 6: File Handling

-GROUP BY and HAVING clauses
-Subqueries
-Joins (INNER JOIN, LEFT JOIN, RIGHT JOIN, FULL JOIN)
-Set operations (UNION, INTERSECT, EXCEPT)
-Case expressions and conditional logic
-Window functions (e.g., ROW_NUMBER, RANK, DENSE_RANK)

Module 7: Module and Packages

-Creating and using Module and Packages
-Types of Modules – Built in Modules and User Defined Modules

COURSE CURRICULUM

Module 8: Mathematical Computing with Numpy

-Arrays and Data Structures, Array Creation , Array Manipulation
-Indexing and Slicing, Broadcasting
- Mathematical Functions, Random Number Generation
- Advanced Features and Performance Optimization

Module 9: Data Manipulation Using Pandas

-Data Structures: DataFrame, Series
-Data Loading and Storage, Data Cleaning and Preparation
-Data Exploration, Data Analysis, Indexing and Selection
-Visualization, Time Series, Merging and Joining
-Handling Categorical Data, Performance Optimization
-Custom Functions and Data Transformation

Module 10: Data Visualization Using Matplotlib

-Types of Plots – boxplot, barplot, scatterplot etc.
-Customization, Subplots and Figures
-3D Plotting, Interactive Plots
-Animations

Module 11: Advanced Data Visualization Using Seaborn

- Statistical Data Visualization
- Types of plot - line plot, bar plot, Scatter plot, distplot, kdeplot, jointplot, boxplot etc
- strip plot, factor plot, Pairplot, PairGrid.
- High-Level Plotting Functions
- Color Palettes, Facet Grids, Automatic Data Aggregation
-Regression Plots, Matrix Plots etc.

COURSE CURRICULUM

MySQL Syllabus

Module 1: Introduction to Databases and SQL

-Introduction to databases
-What is SQL?
-Relational databases vs. non-relational databases
-SQL as a language for managing and querying data
-Overview of popular database management systems (e.g., MySQL,
PostgreSQL,
SQL Server)

Module 2: SQL Basics

-SQL data types
-Creating and altering tables
-Inserting data into tables
-Retrieving data with SELECT
-Filtering and sorting data
-Using WHERE clause and comparison operators
-Basic SQL functions (e.g., COUNT, SUM, AVG, MIN, MAX)

Module 3: Advanced Querying

-GROUP BY and HAVING clauses
-Subqueries
-Joins (INNER JOIN, LEFT JOIN, RIGHT JOIN, FULL JOIN)
-Set operations (UNION, INTERSECT, EXCEPT)
-Case expressions and conditional logic
-Window functions (e.g., ROW_NUMBER, RANK, DENSE_RANK)

COURSE CURRICULUM

Module 4: Data Modification

-Updating and deleting data
-Inserting data using subqueries
-Transactions and ACID properties
-Constraints (e.g., PRIMARY KEY, FOREIGN KEY, UNIQUE)
-Handling NULL values
-Importing and exporting data

Module 5: Data Modeling and Design

-Entity-relationship diagrams (ERD)
-Normalization (1NF, 2NF, 3NF)
-Denormalization
-Indexing and performance optimization
-Designing databases with relationships
-Database design best practices

Module 6: Real-world Applications and Case Studies

-Building database-driven applications
-Solving real-world problems with SQL
-Advanced SQL techniques for complex queries
-Performance profiling and optimization
-Best practices for SQL development

Module 7: SQL and Business Intelligence

-Introduction to BI tools
-Connecting SQL databases to BI tools
-Data visualization and reporting
-Building dashboards
-SQL for data analysis

COURSE CURRICULUM

Statistics

Module 1: Introduction to Statistics

-What is statistics?
-Types of statistics
-Descriptive vs. inferential statistics
-Data types (categorical, numerical)
-Populations and samples

Module 2: Data Presentation and Summary

-Data visualization (charts, graphs)
-Measures of central tendency (mean, median, mode)
-Measures of Dispersion (range, variance, standard deviation)
-Quartiles and percentiles
-Univariate, Bivariate and Multivariate Analysis

Module 3: Introduction to Probability

-Basic concepts of probability
-Sample spaces and events
-Conditional probability

Module 4: Discrete Probability Distributions

-Probability mass functions (PMFs)
-Discrete random variables
-Bernoulli and binomial distributions
-Poisson distribution
-Geometric distribution

COURSE CURRICULUM

Module 5: Continuous Probability Distributions

-Probability density functions (PDFs)
-Continuous random variables
-Uniform distribution
-Exponential distribution
-Normal distribution

Modul 6: The Central Limit Theorem (CLT)

-Statement and intuition behind the CLT
-Assumptions and limitations
-Importance in statistical analysis

Module 7: Estimation and Confidence Intervals

-Point estimation
-Confidence intervals for the population mean
-Confidence intervals for proportions

Module 8: Hypothesis Testing

-Null and alternative hypotheses
-Z-tests and T-tests
-P-values and significance levels

COURSE CURRICULUM

Module 9: Chi-Square Test of Independence and Homogeneity

-Chi-Square goodness-of-fit test
-Chi-Square test for independence in contingency tables
-Expected cell frequencies and assumptions
-Chi-Square test for homogeneity
-Comparing proportions across different groups
-Real-world examples

Module 10: Analysis of Variance (ANOVA) (1 day)

-One-way ANOVA
-Assumptions and conditions, Post hoc tests
-Two-way ANOVA
-Interaction effects, Interpretation and reporting of ANOVA results.

COURSE CURRICULUM

Machine Learning

Module 1: Introduction to Machine Learning

- About Machine Learning (History and Definition)
- Types of ML

Supervised Machine Learning
Unsupervised Machine Learning
Semi supervised Machine Learning
Reinforcement Learning
- Batch/Offline Machine Learning
- Online Machine Learning
- Instance based learning
- model-based learning
- Challenges in ML
- Machine Learning Development Life-cycle

Module 2: Linear regression (simple and Multiple Linear Regression)

-Introduction and Types of Linear Regression
-Simple Linear Regression
-Intuition of simple linear regression
-Simple Linear Regression model code from scratch
-Regression Metrics
-Multiple Linear Regression
-Introduction to Multiple Linear Regression (MLR)
-Mathematical Formulation of MLR
-Error function of MLR, Code from scratch
-Optimization the Big Picture
-Differential Calculus

COURSE CURRICULUM

Module 3: Gradient Descent

-What is Gradient Descent?
-Intuition, Mathematical Formulation
-Effect of Learning Rate
-Effect of Loss function
-Types of Gradient Descent

Batch Gradient Descent
Stochastic Gradient Descent
Mini-batch Gradient Descent

Module 4: Regression Analysis

-What is Regression Analysis?
-Why Regression Analysis is required?
-What's the Statistic connection with Regression analysis?
-Inference vs Prediction, Statsmodel Linear Regression
-TSS, RSS, and ESS, F-statistic and Prob(F-statistic)
-R-squared (Goodness of fit), Adjusted R-squaredT – Statistic
-Confidence Intervals for Coefficients
-Polynomial Regression
-Multicollinearity

Module 5: Feature Selection

-What is Feature Selection?
-Why to do Feature Selection?
-Types of Feature Selection
Filter based Feature Selection
Wrapper method
Embedded Methods

COURSE CURRICULUM

Module 6: Regularization

-Bias-Variance Tradeoff
-What is Regularization
-Types of Regularization

Ridge Regression
Lasso Regression
ElasticNet Regression

Module 7: K Nearest Neighbors (KNN)

-Session on K nearest Neighbors Part 1
-KNN intuition
-Overfitting and Underfitting in KNN
-Limitations of KNN
-coding K nearest Neighbors from scratch
-How to draw Decision Boundary for Classification problems
-Advanced KNN
-Classification Metrics

Module 8: Principal Component Analysis (PCA)

-Curse of Dimensionality
-Geometric Intuition of PCA
-Eigen vectors and Eigen Values
-Eigen Decomposition and PCA variants
-Eigen Singular Value Decomposition (SVD)

COURSE CURRICULUM

Module 9: Model Evaluation & Selection

-ROC Curve in Machine Learning
-ROC AUC Curve and it's requirements
-Confusion matrix
-Cross Validation
-Data Leakage
-Hyperparameter Tuning

Module 10: Naive Bayes

-Probability, Random Experiment
-Empirical vs Theoretical probability
-Random variable, Probability distribution of random variable
-Joint probability, Marginal probability, Conditional probability
-Bayes Theorem, How Naive Bayes handles numerical data
-What if data is not Gaussian, Naive Bayse on Textual data
-Log Probabilities, Laplace Additive Smoothing, Bias Variance Trade off
-Gaussian Naive Bayes, Categorical Naive Bayes, Multinomial Naive Bayes
-Probability Distribution related to Naive Bayes
-Categorical Naive Bayes, Bernoulli Naive Bayes
-Multinomial Naive Bayes, Out of Core Naive Bayes
-End to End Project | Email Spam Classifier

Module 11 : Logistics Regression

-Introduction - Logistic Regression
-Multiclass Classification using Logistic Regression
-How Logistic Regression handles Multiclass Classification Problems.
-One vs Rest (OVR) Approach
-SoftMax Logistic Regression Approach
-Maximum Likelihood Estimation

COURSE CURRICULUM

Module 12 : Support Vector Machines (SVM)

-Hard Margin SVM
-Soft Margin SVM
-Constrained Optimization Problem
-SVM Dual Problem
-Maths Behind SVM Kernels

Module 13: Feature Engineering

-Handling Missing Values
-Types of Missing Values
-Handling Missing Data
-Univariate Imputation - Numerical Data
-Univariate Imputation - Arbitrary Value & End Distribution Value
-Univariate Imputation - Categorical Data
-Univariate Imputation - Random (Numerical + Categorical)
-Handling Missing Data - Multivariate Imputation
-KNN Imputer, Iterative Imputer

Module 14 : Decision Trees

-Introduction, Intuition behind DT, Terminology in Decision Tree
-The CART Algorithm – Classification, Splitting Categorical Features
-CART for Regression, Geometric Intuition of CART
-How Prediction is Done, Advantages & Disadvantages of DT
-Feature Importance, The Problem of Overfitting
-Why Overfitting happens, Unnecessary node
-Decision Tree Visualization

COURSE CURRICULUM

Module 15 : Ensemble Methods

-Introduction to Random Forest|
-Bagging vs. Random Forest
-Why Ensemble Techniques work?
-Random Forest Hyperparameters
-OOB ScorExtremely Randomized Trees
-Advantages and Disadvantages of Random Forest

JOB PROFILE AFTER THIS COURSE

Business Intelligence Analyst	Statistician	Business Intelligence Developer
Data Modeler	Data Scientist	Data Architect
Big Data Engineer	Machine Learning Engineer	Machine Learning Scientist
Data Storyteller	Database Administrator	Technology Specialized Roles

CERTIFICATE FORMAT

CERTIFICATE
OF COMPLETION

THIS IS TO CERTIFY THAT MR/MS. SAMPLE SAMPLE

Has successfully completed certification course in _____

On 01st Jan 2024 at Irizpro Learning Solutions, Pune

SAMPLE CERTIFICATE

Nidhi Vishnoi
Director, Irizpro

Prof. Prashant Gawade
Professor

Google | Microsoft | aws | CompTIA

4921041 | Pune

Google
Reviews
4.7 ★★★★★

★★★★★ **GOOGLE RATINGS 4.7**

Pam
Local Guide · 17 reviews
★★★★★ 11 months ago

A professional learning centre where they not only train and teach you in detail but also provide complete unconditional support throughout your learning journey with utmost patience, warmth and encouragement no matter what background or field you are from. Every member of the staff is very friendly and supportive but firm at every step which encourages you to enjoy your classes and also ensure you go away with the complete knowledge of what you signed up for.

Sagar Dhalape
Local Guide · 25 reviews · 17 photos
★★★★★ 11 months ago

Irizpro Training Solutions exceeded my expectations! Completing the Data Analytics course was a game-changer for my career. The instructors were knowledgeable, the hands-on projects were valuable, and the support team was excellent. Highly recommend for anyone interested in data analytics!

akshata arjunwadkar
2 reviews
★★★★☆ 2 months ago

Institute is good in curriculum, teaching and placement.
Provide good support for placement.

Juii Pathak
5 reviews
★★★★★ 3 years ago

Very good, professional and friendly trainers. They make the subject look easy for you which is the most important thing. The training content in Advanced MS Excel and data management is designed in an excellent way. Must do , if you're looking forward to upskill yourself in these fields.

OUR OFFICE PREMISES

COMPANIES WHERE OUR STUDENTS ARE PLACED

amazon

cognizant

accenture

Netcracker
An NEC Company

fiserv.

CAPITA

Capgemini

Atos

IBM

inspira

Calfus

wipro

Infosys

TECH mahindra

Persistent

NEEMTREE
Technology Labs

SoftServio Technologies
Let Your Success Flow Smartly

Testers HUB

SpryOX

SPHINX SOLUTIONS
INSPIRE-INNOVATE-EVOLVE

CONTACT US

Head Office : Office No 03, 8th Floor, B Wing, City Vista, Downtown Rd, Ashoka Nagar, Kharadi, Pune, Maharashtra 411014

9503883443 / 8369834848 / 9370754234

www.irizpro.in