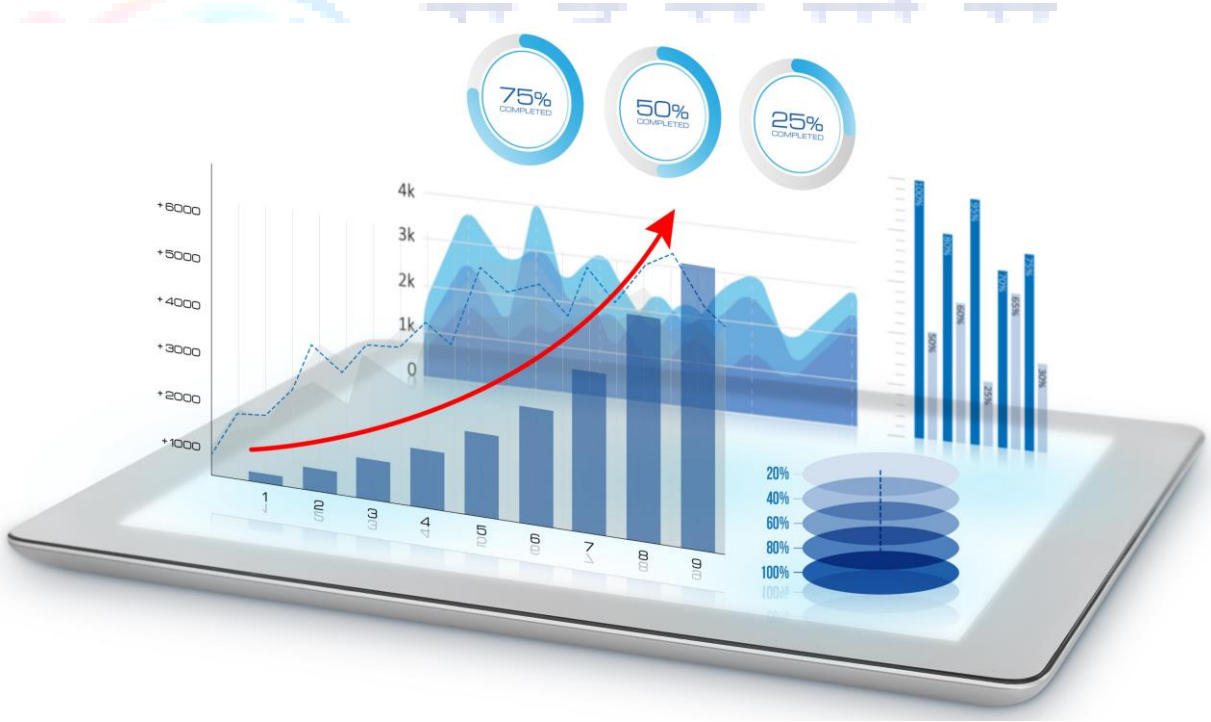
राष्ट्रीय इलेक्ट्रॉनिकी एवं सूचना प्रौद्योगिकी संस्थान, चेन्नई
National Institute of Electronics & Information Technology, Chennai

Ministry of Electronics & Information Technology
Government of India

नेशनल इंस्टीट्यूट ऑफ इलेक्ट्रॉनिक्स एंड इंफॉर्मेशन टेक्नोलॉजी, चेन्नई
National Institute of Electronics and Information Technology, Chennai
Autonomous Scientific Society of Ministry of Electronics & Information Technology (MeitY), Govt. of India
ISTE Complex, 25, Gandhi Mandapam Road, Chennai - 600025

Course Prospectus

Certificate Course in Business Intelligence using Tableau



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Course Prospectus

Name of the Group	: Data Science
Course Name	: Certificate Course in Business Intelligence using Tableau
Duration	: 8 weeks - 80 Hours (2 Hour per Day) [4pm to 6pm]
Course Coordinator	: Dr. Sanjeev Kumar Jha, Mobile: 7765803105
Start Date	: 15 – 09 - 2021
Last Date of Registration	**:** 13 - 09 - 2021
No. of Seats	: 35

The Cloud based **Live Instructor Led-Online Certificate Course in Business Intelligence using Tableau** 8 Weeks program offered by NIELIT Chennai is an excellent blend of knowledge and practice in the field of Data Analysis, Business Intelligence, Data Visualization and its industrial applications. The course progresses from the scratch to a pro-level for achieving the goal of solving critical business problems. The course has been designed after proper industry survey and consultation with multiple industry leaders to ensure that participants learn exactly what employers need.

Objective of the Course:

The objective of this program is to make the participants well versed in Tableau and train them to build interactive dashboards and performing data visualization. This Tableau course will also prepare you for the Tableau Desktop Qualified Associate Exam Conducted by Tableau. You will learn about Desktop and Public integration with R and Big Data in this certificate course. Business intelligence (BI) is essentially the collection of tools and processes that are used to gather data and turn it into meaningful information that people can use to make better decisions. Using Excel, you can create powerful reports, scorecards, and dashboards. You can bring data into Excel, sort, and organize data, and use it to create reports and scorecards. You can also use powerful analytic capabilities in Excel to visualize and explore data. Understand the business intelligence and data visualization using Tableau tool. The course is best for software developers, systems and IT administrators, and BI experts.

Expected Job Roles

- Junior Business Analyst, Tableau Developer

Outcome of the Course: On completion of this course the students can use Tableau creating interactive dashboard to perform Data analysis and Data Visualization which is the need of the hour for the current market.

Requirements

- ✓ You will need access to a PC/Laptop with an Internet connection.
- ✓ You must have at least 8GB of free RAM on your system.
- ✓ Tableau Software Licence student version (trial version) or creator subscription (may be purchased from https://buy.tableau.com/)
- ✓ Basic Programming knowledge
- ✓ Enthusiasm to learn new things.

Course Structure

Module No.	Module Title	Duration (Hrs.)		
		Theory	Lab	Total Duration (In Hrs.)
1	Introduction to Business Intelligence (BI) & Tableau	4	6	10
2	Implementing data blending and aggregation	8	12	20
3	Data visualization, real-time analytics, Generated fields, special fields, Connections for organizing data, reports, and calculations.	8	12	20
4	Connecting Tableau with R, Deploying R scripts	8	12	20
5	Case Study	4	6	10
Total		32	48	80 (8 Week)

Other Details:

Course Fees: Rs. 4,000/- (Including GST) (Non-Refundable)

However, the above Training fee shall be refunded on few special cases as given below:

1. If course postponed and new date is not convenient for the student.

2. If course cancelled

Online Theory / Practical Class Delivery Mode: NIELIT Chennai eLearning Server (URL: elearn.nielitchennai.edu.in)

Note: E-Contents, Presentations, Assignments, programs etc will be shared on this server.

Payment Schedule

The Fee has to be paid in one instalment as given below.

Installment No	Last Date of Payment	Amount (in Rs.)
1	13-09–2021	Rs.4,000/-

Eligibility

- ✓ B.E./B.Tech/M.E./M.Tech/M.S./MBA/B.C.A./M.C.A./A Level/Any Graduate having knowledge of Mathematics/Statistics/College going Students

How to Apply

Candidates can apply online in our website: https://www.nielitchennai.edu.in/reg

Payment be paid through any of the following modes:

- ✓ Online transaction: Account No: 31185720641 Branch: Kottur (Chennai), IFS Code: SBIN0001669.
- ✓ Pay through Nationalized Bank Debit Card (Service charges applicable)
- ✓ DD drawn from a nationalized bank (preferably SBI) in favour of "NIELIT Chennai" payable at Chennai.

Note: *The Institute will not be responsible for any mistakes done by either the bank concerned or by the depositor while remitting the amount into our account*

Last date of Registration: 13 - 09 - 2021

Selection Criteria of candidates

Selection is based on the first come basis (subject to fulfilling the eligibility criteria)

Admission Procedure

All interested candidates are required to upload following documents on or before 13 - 09 - 2021.

- Original and self-attested Copies of Proof of Age, Qualifying Degree (Consolidated Mark sheet & Degree Certificate/Course Completion Certificate), etc.
- One passport size photograph and one stamp size photograph for identity card.
- Self-attested copy of Govt. issued photo ID card

Note: Working days are from Monday to Friday.

Discontinuing the course: No fees under any circumstances shall be refunded in case of a student discontinuing the course. No certificate shall be issued if discontinued.

Course Timings: 2 hours online daily (Theory and Practical) (from Monday to Friday) during working hours

Mode of Training: Live Instructor-led Online

Course Contents:

Module 1: Introduction to Business Intelligence (BI) & Tableau

Course Outline

Introduction to business intelligence and role of data visualization, Real use cases from various business domains, some quick and powerful examples using Tableau without going into the technical details of Tableau, Installing Tableau, Architecture of Tableau, Interface of Tableau & Field types, Saving and publishing a data, Visualization, Share and export the work done in Tableau.

Learning Outcome:

After completion of this module, the candidate will be able to

- ✓ understand Business Intelligence.
- ✓ Install Tableau software.
- ✓ Navigate Tableau interface
- ✓ Develop Examples using Tableau without going into the technical details of Tableau.
- ✓ Explain Interface of Tableau (Layout, Toolbars, Data Pane, Analytics Pane, etc.)
- ✓ Understand Tableau field types
- ✓ Save and publish a data source
- ✓ Contrast between Live vs extract connection
- ✓ share and export the work done in Tableau.
- ✓ Create Charts and Graphs

Module 2: Implementing data blending and aggregation.

Course Outline

Connecting to Data Source, Tableau data types, Connection to Excel, Cubes and PDFs, Management of metadata and extracts, Data preparation, Joins (Left, Right, Inner, and Outer) and Union, Dealing with NULL values, cross-database joining, data extraction, data blending, refresh extraction, incremental extraction, how to build extract, etc., Advanced Data Manipulations, Working with Filters.

Learning Outcome:

After completion of this module, the candidate will be able to

- ✓ Understand Connection to Data Source

- ✓ Manage metadata and extracts
- ✓ Prepare Data for Analysis
- ✓ Understand Joins (Left, Right, Inner, and Outer) and Union
- ✓ Understand NULL values, cross-database joining, data extraction, data blending, refresh extraction, incremental extraction, how to build extract, etc.
- ✓ Understand the concept of Advanced joining.
- ✓ Understand Groups
- ✓ Understand Sets
    - Constant sets
    - Computed sets
    - Combined sets
- ✓ Understand Bins, Hierarchies & Folders
- ✓ Understand the concept of Sorting and Types
- ✓ Use the Formatting pane to work with the menu, fonts, alignments, settings, etc.
- ✓ Edit axes and annotations.
- ✓ Implement different types of filters
- ✓ Filter the order of operations

Module 3: Data visualization, real-time analytics, Generated fields and special fields, Connections for organizing data, reports, and calculations.

Learning Outcome:

Machine learning algorithms Visual analytics in Tableau, Working with Mapping, Working with Calculations and Expressions, Working with Parameters, Creating our Dashboards and Stories in tableau.

Learning Outcome:

After completion of this module, the candidate will be able to

- ✓ Perform K-means cluster analysis
- ✓ Understand Trend and reference lines
- ✓ Implement Forecasting, confidence interval, reference lines, and bands.
- ✓ Plot longitude and latitude on a geographical map

- ✓ Edit locations on the geographical map, Custom geocoding
- ✓ Use images of the map and plot points, Find coordinates
- ✓ Create a polygon map via Use WMS - web mapping services.
- ✓ Use Calculation syntax and functions in Tableau
- ✓ Understand Various types of calculations, including Table, String, Date, Aggregate, Logic, and Number
- ✓ Understand Levels of details: fixed level, lower level, and higher level
    - LOD expressions, including concept and syntax
    - Nested LOD expressions
    - Aggregation and replication with LOD expressions
- ✓ Create new parameters in calculation and apply on a filter
- ✓ Pass parameters to filters to select columns, select charts.
- ✓ Create a Tableau dashboard view, include legends, objects, and filters
- ✓ Make the dashboard interactive
- ✓ Use visual effects, annotations, and descriptions to create and edit a story

Module 4: Connecting Tableau with R, Deploying R scripts

Course Outline

Introduction to R language, R functions in Tableau, The integration of Tableau with Hadoop

Learning Outcome:

After completion of this module, the candidate will be able to

- ✓ Understand Applications and use cases of R Language
- ✓ Use R functions in Tableau
- ✓ Integrate Tableau with Hadoop

Module 5: Case Study (4 Hrs.)

Case Study 1: Sales and Marketing Domain

Sales and Marketing analytics teams have the challenging task of cleaning up CRM data and analyzing it; Sales and Marketing analytics teams to create centralized, self-service dashboards in compelling of centralized sales dashboards means that everyone will be using the same data to make decisions—with these reports serving as single sources of truth. Sellers, sales managers, and senior leaders would speak the same language and work toward common sales KPIs. Using reports connected to live data sources with clean and validated sales data means you're better prepared and never caught off-guard—helping everyone in the organization be more agile, pivot quickly to hit quota or work opportunities more effectively. Analysts can produce more accurate sales forecasts, leaders can plan territories more strategically, and sellers can have an exact picture of where they stand against their goals.

Case Study 2: Manufacturing Domain

The manufacturing industry is moving faster at the pace we can imagine. The industry is constantly challenged with rising business demands such as improving production line, maintaining product quality, mitigating supplier chain complexities and cost and meeting strict regulatory compliance. So, there comes a need to invest in BI software that can help you monitor all your manufacturing operations smoothly. Extracting knowledge out of this data, making it tangible and also actionable, is another key aspect of unlocking the value that data can create…Using the available functionalities we get from Tableau, we have been able to move towards more data-driven decision-making, enabling teams in several areas, such as supply chain, sales, finance. The software that helps your manufacturing industry with insightful reporting and key metrics from production to daily sales. The software that can help you quickly dive into your pending orders, analyze production units, review factory output and give you a 360-degree view of how your business operates on micro and macro levels. Having access to data is only part of the equation and only one part of the challenge.

Director, NIELIT Chennai

Dr. Pratap Kumar S

Director

Dr. Pratap Kumar S, is BTech (Electrical Engineering), MTech (Digital Electronics), MBA (Marketing) and PhD (Strategic Management). He has More than 29 year's experience in planning and execution of industrial consultancy projects, and capacity building projects funded by both industry and central & state ministries. Executed 7 major industrial consultancy projects and associated with the development of more than 50 product technologies, empowered more than 10,000 candidates through various capacity building programs and facilitated more than 40,000 job seekers through various job fairs and outreach programs. He has expertise in Strategy, Product Development, Automotive Electronics, Embedded Systems, and Power Electronics.

Programme Co-Ordinator

Dr. Sanjeev Kumar Jha

Joint Director and Head (Academics)

Dr. Sanjeev Kumar Jha, is Masters in Statistics and Ph.D. in Computer Science and Engineering. He has extensive experience of more than two decades as an educator and researcher. He has published various research papers. Currently, he is Joint Director (Technical) at National Institute of Electronics and Information Technology (NIELIT), Chennai. He has expertise in various domains like Data Science, Big Data, Power BI and Software Development (Open Source). He has more than 24 years of experience in planning and execution of various training Programs and capacity building projects funded by both industry and central & state ministries.

Faculties

Saran S

Project Engineer

Saran S, has an Integrated M.Sc. in Computer Science from Pondicherry University. He has extensive Hand on Experience in Hadoop Big Data Tools, ML & AI Integration in Data Science, Network Developer on Java Networks Application with Arduino Boards. He is currently a Project Engineer at National Institute of Electronics and Information Technology (NIELIT), Chennai. His areas of interest include Data Science, Big Data Analysts, ML & AI Developer, and Software Developer (Python & Java).

Lakshmi Priya S

Project Engineer

Lakshmi Priya S, is Masters of Engineering in Computer Science and Engineering with Specialization in Big Data Analytics. She is a Project Engineer at National Institute of Electronics and Information Technology (NIELIT), Chennai. She has an experience as an educator in various domains like Big Data, Data Analytics using R and Python, RDBMS, NoSQL. She is expertise in statistics and has taken many short-term courses like Data Analytics using R, Python and PG Diploma Courses in Data Science and Analytics.

Gautam Siddarth P

Project Engineer

Gautam has a B-Tech from NIT Bhopal in Computer Science and Engineering, studies MS in Telecom Technology from RIT, NY. He has over a decade of experience on various technologies as a developer and researcher. Currently working as a Project Engineer in National Institute of Electronics and Information Technology (NIELIT), Chennai. He has expertise in various fields like telecommunication, data analytics, machine learning, Artificial Intelligence, Embedded systems and IoT. He has experience in implementing several projects for the industry, state and central government.

Available Services @ NIELIT Chennai

A. Moodle based LMS

Entire course will be executed in online-blended mode using NIELIT Chennai Moodle based Learning Management System (elearn.nielitchennai.edu.in).

Features:

A. Live Lecture

B. 24 X 7 available for students of NIELIT Chennai.

C. Recorded lectures and study material can be accessed through this portal.

D. Online Submission of assignments

E. Online Modular Test.

F. Faculty Assistance through Chat box.

B. Cloud based Virtual Lab for Practical Oriented Training Programs

Virtual Lab is a new technology in Cloud Computing to setup cloud server to deploy custom Virtual Machines (as a Virtual Desktop Infrastructure) to access over client browser anywhere-anytime. Also, this integrates physical computer/server to access over cloud. NIELIT Chennai has his own Cloud based Virtual Lab for his students.

Features:

A. Cloud Computing with High Performance Computing (HPC) Technology with Group of rack servers.

B. Available 24x7 to provide virtual lab service to our students.

C. Participants can attend Data Analytics lab and exercises over browser from anywhere in the world.

D. Freedom to participants to create the required computing resources based on allowed quota.

Address:

National of Electronics and Information Technology

ISTE Complex, No. 25, Gandhi Mandapam Road, Chennai – 600025

E-mail : trng.chennai@nielit.gov.in/Phone : 044-24421445

Contact Person : Dr. Sanjeev Kumar Jha, Mobile: 7765803105

Course enquiries

Students can enquire about the various courses either on telephone or by personal contact between 9.15 A.M. to 5.15 P.M. (Lunch time 1.00 pm to 2.00 pm) Monday to Friday.