



**NMIMS GLOBAL ACCESS
SCHOOL FOR
CONTINUING EDUCATION**

NMIM-SAS

Program Information

Overview

NMIMS School of Continuing Education is planning to initiated Certificate and Advanced Certificate Programs in Business Analytics in partnership with SAS.

SAS is the leader in analytics. Through innovative analytics, business intelligence and data management software and services, SAS helps customers at more than 80,000 sites make better decisions faster. SAS helps you make sense of your data. As the leader in business analytics software and services, SAS transforms your data into insights that give you a fresh perspective on your business. You can identify what's working. Fix what isn't. And discover new opportunities.

These programs will enhance your ability to analyse data and effectively use to it to improve productivity and develop new strategies

Approach

Program fees (Excludes 18% GST):

- **Registration fees Rs 1000**
- **Management Program in Data Visualization: Rs 70,000**
- **Executive Program in Big Data and Machine Learning : Rs 1,10,000**
- Existing students and Alumni will benefit a 20% discount on the Program fees
- Every batch of SAS will be restricted to 35 Students (Multiple batches)
- SAS lectures will be conducted by SAS faculties from NMIMS Mumbai location
- 3rd Saturday and Sunday, SAS applications cannot be accessed
- Students can access the tools and application from their Home/Office network permitted to good Internet connectivity within India Region
- Access to Data sets to practice theoretical concepts learnt during sessions
- Program structure includes Lectures, Mentored Practice sessions, Global Certification

Management Program in Data Visualization

What is Data Visualization?

- In simple words it is visual representation of data
- Step by step mechanism to study data with help of specialised tools
- Process to help individuals/companies to make more refined decisions

Why Data Visualization?

- Identify critical drivers to make better decision
- Single interface for Dashboards, reporting and Business Intelligence
- Understand the “why” factor behind any activity
- Uncover Opportunities/Facts hidden in your data
- Highlight key relationships, outliers, clusters and more, revealing vital insights that contribute to actions

Benefits of Data Visualization

- SAS Data Visualization combines powerful in memory technologies with an extremely easy to use exploration interface
- The only visualization tool with inbuilt forecasting and data prediction capability
- Drag and drop analytics capabilities
- No coding required, text analytics could be created using SAS
- Creating reports using SAS Visual Analytics Designer
- Rich, easy to use set of integrated capabilities for sharing and creating insights

Executive Program in Big Data and Machine Learning

What is Machine Learning?

- Machine Learning is a branch of artificial Intelligence that automates the building of systems
- Learn iteratively from existing data

Why Machine Learning?

- Machine learning explores the study and construction of algorithms that can learn from and make predictions on data
- To analyse growing volumes and varieties of available data, computational processing that is cheaper and more powerful, and affordable data storage
- Deliver faster and more accurate results –even on a very large scale
- Building precise models, an organization has a better chance of identifying profitable opportunities –or avoiding unknown risks

Benefits of Machine Learning

- Customize-Build powerful models using state of the art algorithms
- Speed-Fast response time for sophisticated analytics applied to complex data of any size
- Reduced coding, processing and modelling time
- Learn Practical Analytics reporting and understand “Analytics Life Cycle”
- Domain specific case studies-Financial risk Management, Marketing analytics, Operations and Supply chain analytics
- Value add learning on “Analytics Bridge course” during the program

Data Visualization v/s Machine Learning

Data Visualization	Machine Learning
Helps to explore data and build reports	Branch of Artificial Intelligence that automates the building of systems
Focuses on analytical reasoning facilitated by interactive visual interfaces	identifies patterns and predict future results with minimal human intervention
Single application for reporting, data exploration, analytics	Using known results to create, process, and validate a model that can be used to forecast the future
Comprehends the patterns in the data quickly and identify opportunities for further analysis	Helps learn iteratively from data

Programs Details:

Management Program in Data Visualization

Duration: 6 months include: [Lectures, Practice sessions, Exams and Global Certification]

- ✓ **Business Statistics [24 hrs/2 hrs per session/1 month]**
Doubt clearing session post all session are over
- ✓ **Visual Analytics [32 Hours/2 hours per session /4 months]**
Post every 4 sessions doubt clearing session with the faculty
- ✓ **VA Exams and Global Certification [1 month]**
2 attempts to clear the subject and prep session before re-sit attempt
Prep session before Global Certification

SAS VA tool: 20 hrs during lectures and 30 hrs post lectures for practice

CERTIFICATION:

SAS Certified Visual Business Analyst: Exploration and Design Using SAS Visual Analytics

*** Additional 15 hrs @ 5020 + 18% GST (minimum requirement)**

Programs Details:

Executive Program in Big Data and Machine Learning [Predictive Model]

Duration: 9 months include: [Lectures, Practice sessions, Exams and Global Certification]

- ✓ **Business Statistics [24 hours/2 hours per session/1 month]**
Doubt clearing session post all session are over
- ✓ **Analytics Bridge Course [24 hours/ 2 hrs per session/ 1.5 months]**
- ✓ **Predictive Model-E-guide [24 hours/ 2 hours per session/2 months]**
- ✓ **E-Miner [24 hrs / 2 hours per session/2.5 months]**
- ✓ **Domain specific case studies “Financial risk Management”, “Marketing analytics”, “Operations and Supply chain analytics” [1 month]**
- ✓ **ML Exams and Global Certification [1 month]**
2 attempts to clear the subject and prep session before re-sit attempt
Prep session before Global Certification

SAS EMINER tool: 30 hrs during lectures and 20 hrs post lectures for practice

CERTIFICATION:

SAS Certified Predictive Modeler Using SAS Enterprise Miner 14

* Additional 15 hrs @ 5020 + 18% GST (minimum requirement)

Case Study Process: Machine Learning

Sessions on “*Marketing Management*”, “*Supply chain and Operations Management*”, “*Financial Risk Management*”. One session will be conducted on “How to prepare a case study”. Student will then select the electives on or before 30th July, based on the selection we will provide case studies for students to download from the portal. Students need to submit the case study presentation on or before 20th Sep. NMIMS will assign slots for presenting the case study (optional), these case studies will be prepared individually by students.

Panel of experts one from SAS and one subject area expert who will evaluate the case-study presentation. Students will be provided relevant feedback on case studies submitted

Conditions:

- ✓ Submission is mandatory, Presentation is not, however if someone wants to present we will help them with slots as per the process
- ✓ There is no re-sit attempt

Grade	Marks
A	90 and above
B	75-89
C	50-74
D	Below 50
E	Not Submitted, Blank Submission, Submitted Question paper

Impact on passing criteria's:

1. Case study submission before pre-defined dates is mandatory
2. If student clears all subjects and has been graded “A”, “B”, “C” or “D” student is eligible for “Certificate of Completion” but if graded an “E” then is eligible for “Certificate of Participation”
3. If student has not cleared one or all subjects but has attempted all applicable subjects and has been graded “A”, “B”, “C” “D” or “E” student is eligible for “Certificate of Completion”

BADGES:

- ✓ When you complete an eligible course, you'll receive an email from Acclaim, digital badge partner for SAS, inviting you to claim your badge
- ✓ Click the link in the email
- ✓ Create an account on the Acclaim site
- ✓ Claim your badge and start sharing the same on Social media and professional network sites

Management Program in Data Visualization

Badge offered post completion of the Program:

<https://www.youracclaim.com/org/sas/badge/sas-visual-analytics-for-sas-9-fast-track>

Badge offered post completion of Global Certification:

<https://www.youracclaim.com/org/sas/badge/sas-certified-visual-business-analyst-exploration-and-design-using-sas-visual-analytics>

Executive Program in Big Data and Machine Learning [Predictive Model]

Badge offered post completion of the Program:

<https://www.youracclaim.com/org/sas/badge/advanced-predictive-modeling-using-sas-enterprise-miner>

Badge offered post completion of Global Certification:

<https://www.youracclaim.com/org/sas/badge/sas-certified-predictive-modeler-using-sas-enterprise-miner-14>

Curriculum: Business Stats (MPDV & EPBM)

- ✓ Introduction to Business Statistics
- ✓ Collection, Processing and Presentation of Data
- ✓ Measures of Central Tendency
- ✓ Measures of Dispersion
- ✓ Skewness and Kurtosis
- ✓ Correlation Analysis
- ✓ Regression Analysis
- ✓ Theory of Probability
- ✓ Probability Distribution
- ✓ Use of Excel Software for Statistical Analysis

Curriculum: Enterprise Miner

- ✓ Introduction
- ✓ Accessing and Assaying Prepared Data
- ✓ Introduction to Predictive Modeling with Decision Trees
- ✓ Introduction to Predictive Modeling with Regressions
- ✓ Introduction to Predictive Modeling with Neural Networks and Other Modeling Tools
- ✓ Model Assessment
- ✓ Model Implementation
- ✓ Introduction to Pattern Discovery
- ✓ Special Topics
- ✓ Case Studies

Curriculum: Data Visualization

- ✓ Getting Started with SAS Visual Analytics
- ✓ Administering the Environment and Managing Data
- ✓ Using the SAS Visual Analytics Explorer
- ✓ Designing Reports with SAS Visual Analytics
- ✓ Viewing SAS Visual Analytics Reports
- ✓ Case Study: Creating Analyses and Reports with SAS Visual Analytics Learning More

Curriculum: Analytics Bridge Course (EPBM)

- ✓ Understanding Predictive Analytics
- ✓ Data Analytics Lifecycle
- ✓ Data Preparation
- ✓ Descriptive Modelling
- ✓ Predictive Modelling
- ✓ Big Data Analytics

Curriculum: Enterprise Guide

- ✓ Pre-requisite Basic Concepts
- ✓ Getting Started in Enterprise Guide 7.1
- ✓ Introduction to Statistics
- ✓ Analysis of Variance (ANOVA)
- ✓ Regression
- ✓ Regression Diagnostics
- ✓ Categorical Data Analysis

Why this Program with NMIMS

- ✓ Latest course material from SAS
- ✓ SAS Faculties
- ✓ E-Badge [2 levels]
- ✓ Sessions on “Business Statistics”, to strengthen your journey on Visual Analytics
- ✓ Session on “Analytics Bridge Course” benefiting your learning on Predictive Model
- ✓ Mentored sessions by SAS faculties
 - Practicing data
 - Fixing opportunities identified during exams
- ✓ Defined batch size for Quality interaction during lectures
- ✓ Sessions conducted through Amazon Web Services, exclusively used for NMIMS
- ✓ Global Certification from SAS [Preparation session conducted by SAS]
- ✓ Weekend classes and Online interface
- ✓ Joint Certification NMIMS and SAS
- ✓ Flexible Exam pattern
- ✓ Shorter Duration
- ✓ Huge depth of Analytical content
- ✓ 24/7 access to SAS Software

Admissions:

- ❖ NMIMS to host the Admission form, last date of Admission as communicated
- ❖ Program applications for SAS can be only used within India
- ❖ Students to be held accountable if found guilty misusing content material provided
- ❖ Documentation process, same as our regular programs

Logistics:

Data Visualization [Visual Analytics]:

- *2 books of SAS and 1 book of Business Statistics*

Machine Learning [Predictive Model]:

- *4 books of SAS and 1 book of Business Statistics*

- ❖ SAS books will be co-branded with NMIMS logo
- ❖ SAS does not provide any E-book access
- ❖ Book dispatch, same as our regular program

Student Portal:

- ❖ Access to SAS data set via Student portal
- ❖ Recordings for Business stats and foundation course will be made available for new students
- ❖ Demo Exams presenting a standard frame work
- ❖ Lecture Video streaming no download available

Academics:

- ❖ Lectures conducted by Host and Co-host for SAS programs
- ❖ Issues/Queries to be trouble shooted by the Co-host
- ❖ Mentored practice session for better hand holding on data sets
- ❖ “Post my Query” for NMIMS and SAS programs

Examination cycle:

- ❖ Pattern-MCQ and exams to be conducted at our Regional offices, for ML descriptive questions with tool usage
- ❖ Students can appear for Business Statistics Exams as SAS applications will not be accessible during 3rd weekend of every month
- ❖ Flexi exam cycle for DV and ML, registration process stays the same
- ❖ Mentoring session by SAS on opportunities identified during exams for DV/ML (4hrs)
- ❖ Re-sit options for Business Stats, DV and ML
- ❖ Exam Fee: Included in Program fees for two attempts of VA/ML and three attempts for Business Statistics
- ❖ Preparation for Global Certification [DV/ML]
- ❖ No revaluation policy in both programs
- ❖ Certificate of Participation: Mandatory attempt for all subjects
- ❖ Certificate of Completion: Mandatory attempt for all subjects (Scoring $\geq 50\%$)
- ❖ **Exam Duration:**
 - VA 1.5 hrs
 - ML 1.5 hrs
 - Business Stats-1.5 hrs

Student Lifecycle DV:

- Admissions [APR-JUL]
- Portal access/Books: Immediate

- Lecture Commencement the week of admission closure
- Mentored Practice sessions after every 4 Sessions

Business Stats exams (3 attempts)

"Global Certification" preparation session

Appearance for "Global Certification"-
Post all exams

Re-sit attempts for Business Statistics
and VA

VA exams (2 attempts)

Student Lifecycle ML:

- Admissions [APR-JUL]
- Portal access/Books: Immediate

- Lecture Commencement the week of admission closure
- Mentored Practice sessions after every 4 Sessions

Business Stats exams (3 attempts)

“Global Certification” preparation session

Appearance for “Global Certification”- Post all exams

Re-sit attempts for Business Statistics and ML

ML exams (2 attempts)
Case Study

Top Queries

▪ How is R, Python, Tableau, Hadoop different from SAS Tools?

- ✓ SAS Tools are private licensed software's compared to above tools which are open source.
- ✓ Open source tools are not recommended cause they do not have a tech support to trouble shoot queries.
- ✓ IF there is a latest version/feature launched by SAS, certified professionals will be informed by SAS but not in case of R, Python, etc.

▪ Why you are teaching Analytics Bridge Course before Machine Learning?

Strengthens your base to understand concepts covered in Predictive modelling and Big Data

▪ What is the Course Curriculum?

- ✓ **DV:** We start off with Business Stats and then teach you how to prepare data in terms of importing data, joining data, filtering data, how to load/import data files. Prepare and review Dashboards with exploring data along with data analysis
- ✓ **ML:** We start off with Business Stats and Analytics Bridge course then teach you descriptive and inferential analytics using E-guide. Predictive modelling tool using Eminer, understanding different patterns and new model development, assessment and implementation of the same.

▪ What is E-guide?

It's the visual interface to SAS with transparent data access (Excel, oracle, etc..). Interactive task windows and helps export data in different formats (word, html, pdf, etc...). One stop programing interface with enough help tutorials

Top Queries

- **What is Global Certification and how will it help?**

SAS Global Certification adds a lot of value and weightage to your professional network, you will be awarded with an E-badge on your LinkedIn profile. Easier for companies globally to identify SAS certified professionals (upper edge).

- ✓ No additional fee for Global certification and will be conducted by SAS directly
- ✓ 70 marks required in DV or ML to qualify for Global Certification
- ✓ 70 marks or more required to clear the certification

- **Career Options- Data Visualization**

<https://www.youracclaim.com/skills/data-visualization>

- **Career options- Machine Learning**

<https://www.youracclaim.com/skills/predictive-modeling>

- **My Company is not using SAS, how will it benefit?**

SAS is a tool which helps you to understand the visualization/machine learning concepts and implement your analytics thought process. Even if your company is not using SAS, you can still make use of the concepts learnt as future of any company depends on how they analysis their data today to build a better future

Some Organisations using SAS

Google

Facebook

Twitter

Netflix

Accenture

WNS

Genpact

IMS Health

Mu Sigma

Dell Advanced Analytics

RBS

HDFC

SBI

Citibank

EXL

Infosys

Cap Gemini

TCS

Cognizant

RBI

Income Tax

Hexagon Technologies

Honda

Kotak Mahindra

HSBC

KPMG

Nestle

Bank of America

Lufthansa

Denta Quest

https://www.sas.com/en_us/customers.html#by-name

Open Source v/s SAS

OPEN SOURCE	SAS
Easily available and can be learnt using Internet or YouTube	Licensed version used by companies and certified training for employees and companies
Cost effective	License fee is managed by companies for guaranteed performance
For Support refer to Blogs	Dedicated Support mechanism
No information on latest version releases	SAS updates all certified professionals and also companies using SAS focuses on re-training employees on updated versions
Huge talent pool available hence impacts salary range	Selected set of certified professional maintains a stable demand to supply ratio
No Global Certification	Will be assigned with E-badge on completion of program and also on Global certification

Top Queries

How will Machine Learning helps in following Industries?

INDUSTRY	BENEFIT
Software Developers	Predicting software bugs, security breaches
Banking, Financial and Insurance	Predicting Risk , Financial Fraud , customer segmentation , cross-sell , upsell opportunities, Threat analysis, Trade surveillance (Stock exchange), Credit scoring analysis
Health care and Pharma	Epidemic Prediction , signal detection , Predicting markets , Survival analysis and prediction
Digital Marketing	Recommender Engines, Target Advertising , Customer segmentation, Search quality, Abuse and click fraud detection
Hospitality	Pricing of offers , Recommender Engines, Target advertising , Customer segmentation
Supply Chain	Supplier evaluation, Demand forecasting , Product development, Segmentation
Telecom	Churn prediction , customer segmentation , cross-sell , upsell opportunities, Network performance optimization, Call detail record data analysis, Network failure prediction analysis
Retail	Point of sales transaction analysis, Customer churn analysis, Sentiment analysis
Government	Fraud detection and Cyber security

Competitor Analysis

Name of the College Institute	Duration	Price (INR)
Data Science with SAS-Jigsaw Academy	12 weeks / 3 months	26000 + taxes
PGP in Business Analytics & Business Intelligence –Great Lakes Institute of Management	12 months (Weekend classroom + online)	3.55L + taxes (other campus) 4.25L+taxes (Chennai)
Business Analytics and Intelligence –Indian Institute of Management (IIM B)	12 months (Classroom; Classroom and Distance mode (online)	4.25 L + taxes
Postgraduate Diploma in Business Analytics (PGDBA) –IIM Calcutta, ISI Kolkata, IIT Kharagpur (Tri-institute program)	24 months (Classroom)	
Executive Program in Business Analytics –MISB Bocconi and Jigsaw Academy	10 months	3.90 L + taxes
Certificate program in Predictive Business Analytics –BRIDGE School of Management	The executive program duration is 51 weeks. The fresher program duration is 49 weeks; Classroom & Online mode	
Post Graduate Program in Business Analytics – Praxis Business School	One Year Classroom	4.25 L
Post Graduate Program in Data Science, Business Analytics and Big Data (PGP-DS-BA-BigData) – Aegis School of Business, Data Science & Telecommunication	1 year classroom (5 days classroom + 2 days online)	3.90 L + taxes

Competitor Analysis

Name of the College Institute	Duration	Price (INR)
Certificate Program in Business Analytics – (NMIMS), Bangalore	12 months	2.50 lakhs+ taxes
Business Intelligence and Big Data –IMT Ghaziabad	11 weeks classroom	
PG Diploma in Data Analytics with Upgrad	11 months	2,25,000
IIIT-B PG Diploma -Data Analytics(Distance Mode)	9 months	2,00,000
IIM Ranchi-9 day EPBABI	9-DAY Executive Program	1,02,600, (inclusive of tax)
Edureka-Data Science	5 weekends –3 hours each	22,500
IIM Indore -Decision Analysis and Big Data (on Indore campus)	3 days For more details : http://www.iimdr.ac.in/mdp-calendar/decision-analysis-and-big-data/	42000+ taxes
Certificate Programme in Business Analytics (CBA)-ISB	Blended mode The contact hours in this platform would be 56 hours a month and every alternate month. For more details : http://www.isb.edu/cba/programme-overview	7.5 lakhs + taxes



Thank You